

FIG. 1A

[illegible]

FIG. 1B-1

TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG	684
W N F L E S F Y F C F I S L S T I G L	228
GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT	741
G D Y V P G E G Y N Q K F R E L Y K I	247
GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC	798
G I T C Y L L L G L I A M L V V L E T	266
TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC	855
F C E L H E L K K F R K M F Y V K K D	285
AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC	912
K D E D Q V H I I E H D Q L S F S S I	304
ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC	969
T D Q A A G M K E D Q K Q N E P F V A	323
ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA gcgtaggatttggtgcatt	1030
T Q S S A C V D G P A N H *	337
atgctagagcaccaggggtcaggggtgcaaggaagaggcttaagtatgttcatttttatcagaatgcaaaagcgaaaa	1106
ttatgtcactttaagaaatagctactgtttgcaatgtcttattaaaaaacaacaaaaaagacacatggaacaaag	1182
aagctgtgacccagcaggatgtctaataatgtgaggaaatgagatgtccacctaataatcatatgtgacaaaatta	1258
tctcgacettacataggaggagaataacttgaagcagtatgctgctgtggttagaagcagattttataacttttaact	1334
ggaaactttggggtttgcatttagatcatttagctgatggctaaatagcaaaatttatatttagaagcaaaaaaaa	1410
aaagcatagagatgtgttttataaataagggttatgtgtactgggttgcatgtaccacccaaaatgattattttg	1486
gagaatctaagtcaaactcactatttataatgcataggtaaccattaactatgtacatataaagtataaatatgtt	1562
tatattctgtacatatgggttaggtcaccagatcctagtgtagttctgaaactaagactatagatatatttgtttct	1638
tttgatttctctttataactaaagaatccagagttgctacaataaaataaggggaataataaaaaaaaaaaaaa	1712

FIG. 1B-2

093943-082401

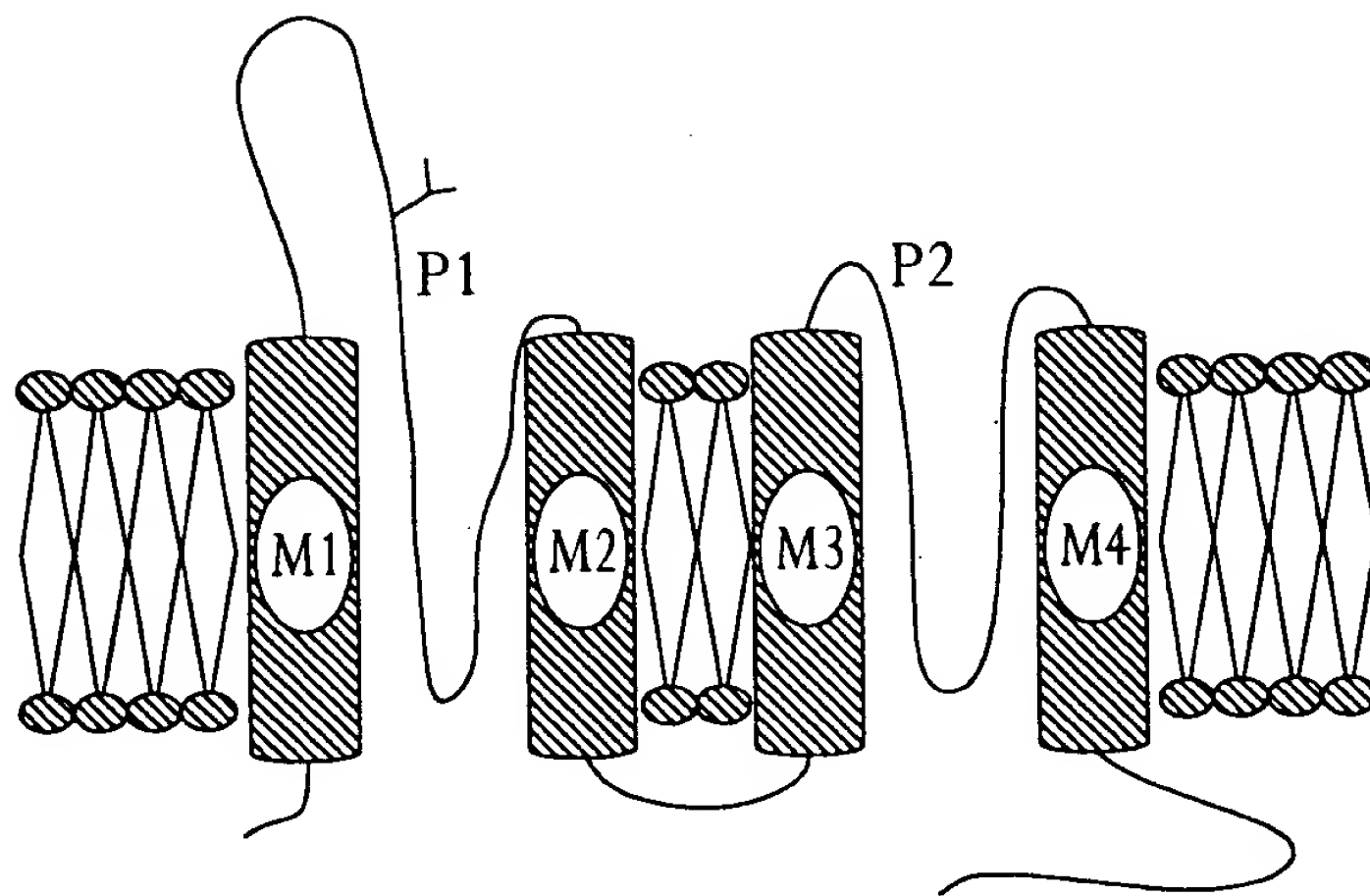
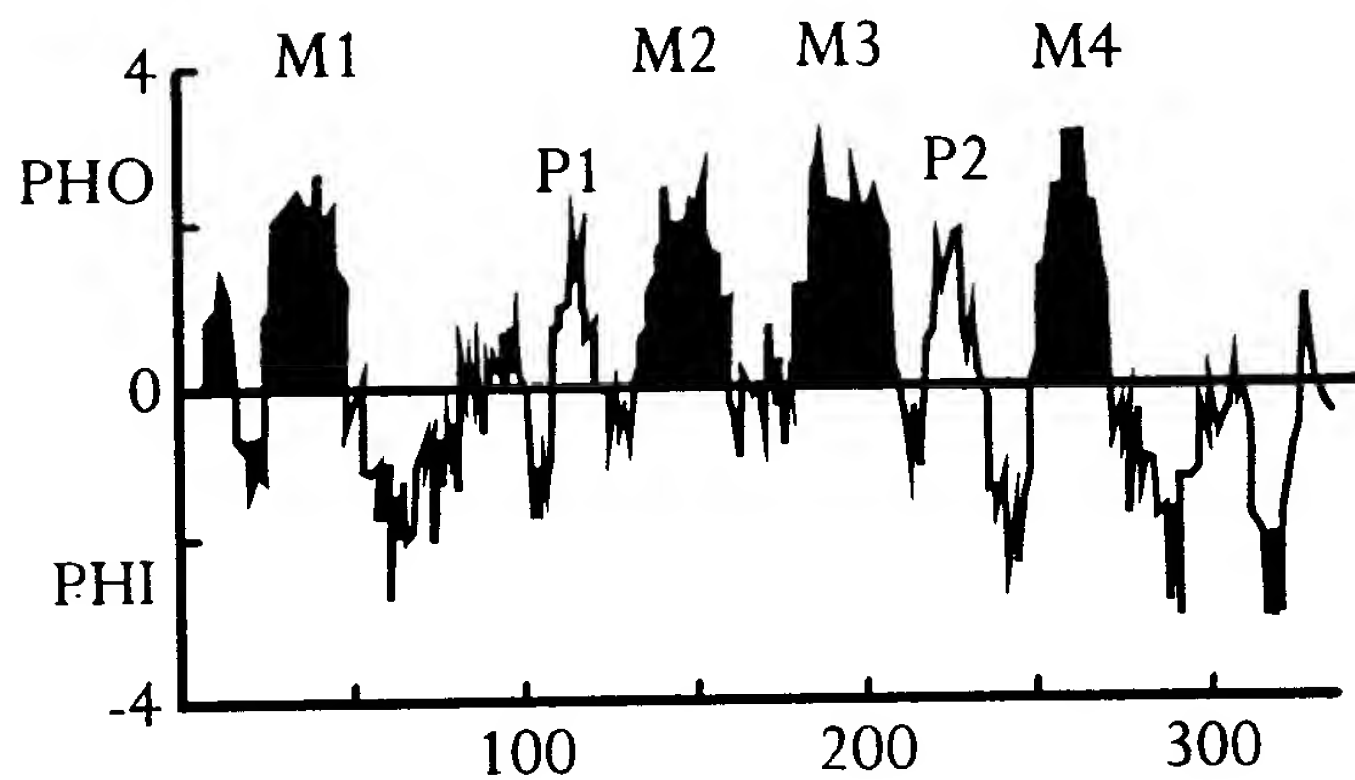


FIG. 1C

0999443-03404

	1	14	27																								
TWIK-1 P1	F	T	S	A	L	F	F	A	S	T	V	L	S	T	T	G	Y	G	H	T	V	P	L	S	D	G	G
TWIK-1 P2	E	L	S	F	Y	F	C	F	I	S	L	S	T	T	G	L	G	D	Y	V	P	G	E	G	Y	N	
TOK1 P2	Y	F	N	C	I	Y	F	C	F	L	C	L	L	T	T	G	Y	G	D	Y	A	P	R	T	G	A	G
TOK1 P1	Y	G	N	A	L	Y	F	C	T	V	S	L	L	T	V	G	L	G	D	I	L	P	K	S	V	G	A
Slo	Y	W	T	C	V	Y	F	L	I	V	T	M	S	T	V	G	Y	G	D	V	Y	C	E	T	V	L	G
Shaker	I	P	D	A	F	W	W	A	V	T	M	T	T	V	G	Y	G	D	M	T	P	V	G	F	W	G	
Shab	I	P	E	A	F	W	W	A	G	I	T	M	T	T	V	G	Y	G	D	I	C	P	T	T	A	L	G
Shal	I	P	A	A	F	W	Y	T	I	V	T	M	T	T	L	G	Y	G	D	M	V	P	E	T	T	A	G
Shaw	I	P	L	G	L	W	W	A	L	V	T	M	T	T	V	G	Y	G	D	M	A	P	K	T	Y	I	G
KAT1	Y	V	T	A	L	Y	W	S	I	T	T	L	T	T	T	G	Y	G	D	F	H	A	E	N	P	R	E
AKT1	Y	V	T	S	M	Y	W	S	I	T	T	L	T	T	V	G	Y	G	D	I	H	P	V	N	T	K	E
eag	Y	V	T	A	L	Y	F	T	M	T	C	M	T	S	V	G	E	G	N	V	A	A	E	T	D	N	E
ROMK1	M	T	S	A	F	L	F	S	L	E	T	Q	V	T	T	G	Y	G	F	R	F	V	T	E	Q	C	A
IRK1	F	T	A	A	F	L	F	S	I	E	T	Q	T	T	T	G	Y	G	F	R	C	V	T	D	E	C	P
GIRK1	F	P	S	A	F	L	F	F	I	E	T	E	A	T	T	G	Y	G	Y	R	Y	I	T	D	K	C	P

FIG. 2A

TWIK-1	1	MLOSLAGSSCVREVE-----RHRSANCF--GE-----LVLGY
f17c8	1	MYTDEGEYSGDTDHGGSTMQKMSPNTRQNFQNVNVVVCISAAITL--
M110-2	1	MTVSMEENSKIQMLSATSKDKKVATDRSLLNKYHLGPLALHTGLVLS
TWIK-1	31	LEYLVFGAVVSSVELPYEDLLROE-----LRKLKRREFLEEHEC---L
f17c8	47	LVENLIGAGF-----LAETONSSSES
M110-2	49	VTYALGGAYEFLSEHP-EELKRREKAIREFQDLKQOQFMGNITSGIEN
TWIK-1	71	SEQDEQELGRVL-----EASNYGVSVLSNASGNWNW--DETSALF
f17c8	69	LNENSEV--SKCLHNLPIGCKITAEKSKLGGKCEKSSRIDGFGKALF
M110-2	96	SEQSEELTKKLMLLEDAHNAHAFYFFLNRELPKDMW--TFSSALV
		P1
TWIK-1	110	FASTVLESTTGYGHTVPESDGGKAFCLL-YSVIGIPFTLLFLTAVVORI
f17c8	115	FSWTEYSTVGYSGLYPHSTLGRYLTIF-YSLMIPVFIAFKFEFGTEL
M110-2	142	FTWTTVLPVGYGYLPVSAVGR-MCLLAYALLGIPLTLYTMADTGKFA
TWIK-1	157	TVH---VTRRPVL-----YELERWGESKOVVALVHAVLLGEVTVSCFF
f17c8	162	AHFLVVVSNRTRLAVKKAYKES-ONPENAETPSNSLOHDYIFLSSL
M110-2	189	AQL---VTR-----W-EGDNNMAIPAAIFV-----CLL
		P2
TWIK-1	197	FL-PAAVFS---VL--EDDWNLESEFYECFISISTIGEGDYVRGEGYN
f17c8	209	LLCSFSLSSSAEFSSINISYLSVYFGITMFLIGLGDVPTN---
M110-2	213	FAYPLVVGf---LLCSTSNITYLDSVYFSITSIFTIGFGDLTP----
TWIK-1	239	QKFRLEYKIGETCYLELGLTAMEVDETFC-----EELHKKER-----
f17c8	254	-----LVWFSGYCMFLISDVLSNOLFYFCQARVRYFFHILARKEL
M110-2	253	-----DMNVTHMVLAVGVILVTETLDIVA---AEMI DRVHYMGHVG
TWIK-1	278	-----KMEYVKKDKDEDVHLEHDOL-----SESSITDOAGMKED
f17c8	295	LLRE-EDDGFOLETTVSELOHEPIINSQCMPSL-----VLDCEKEELOND
M110-2	294	KAKELAGKMFOLAQSINMKOGLVSGVGOLHALAREGMIVGREEVDKTO
TWIK-1	315	QKONEPEVAT-----QSSACVDGPANH-----
f17c8	338	EKLISSEST-----
M110-2	342	EDGLIAFSPDVMGLEFMDTLSIYSRRSRRSAENSARNLFLS

FIG. 2B

093453-03401

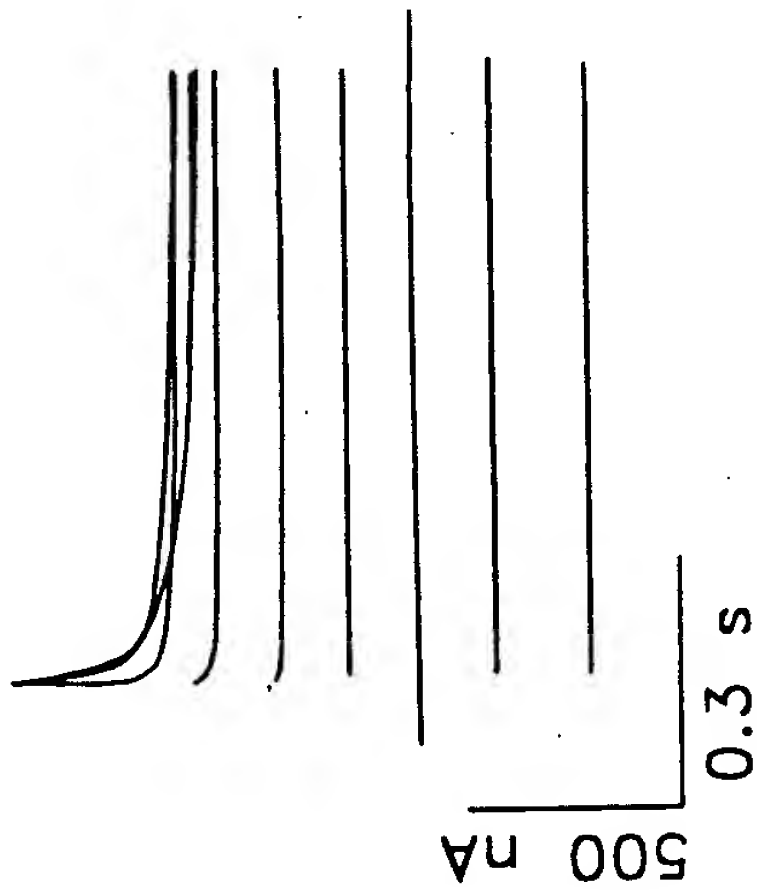


FIG. 3A

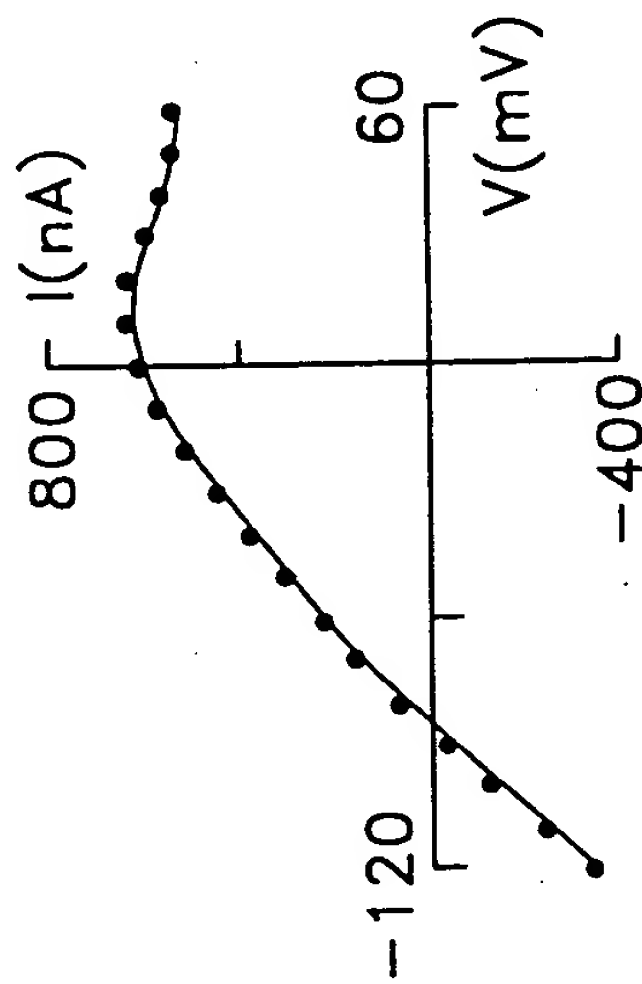


FIG. 3B

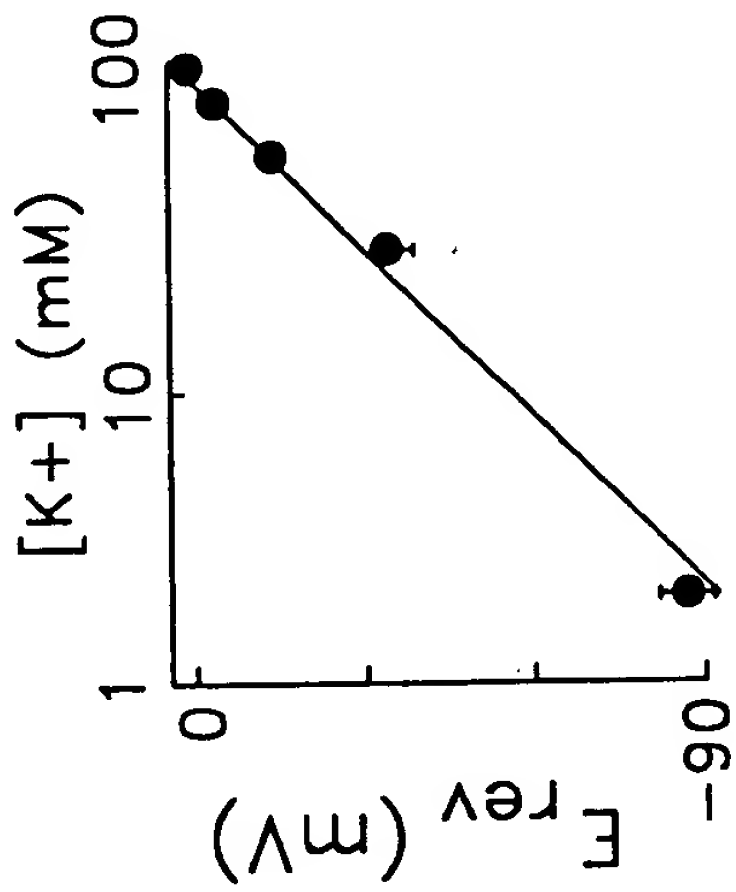


FIG. 3C

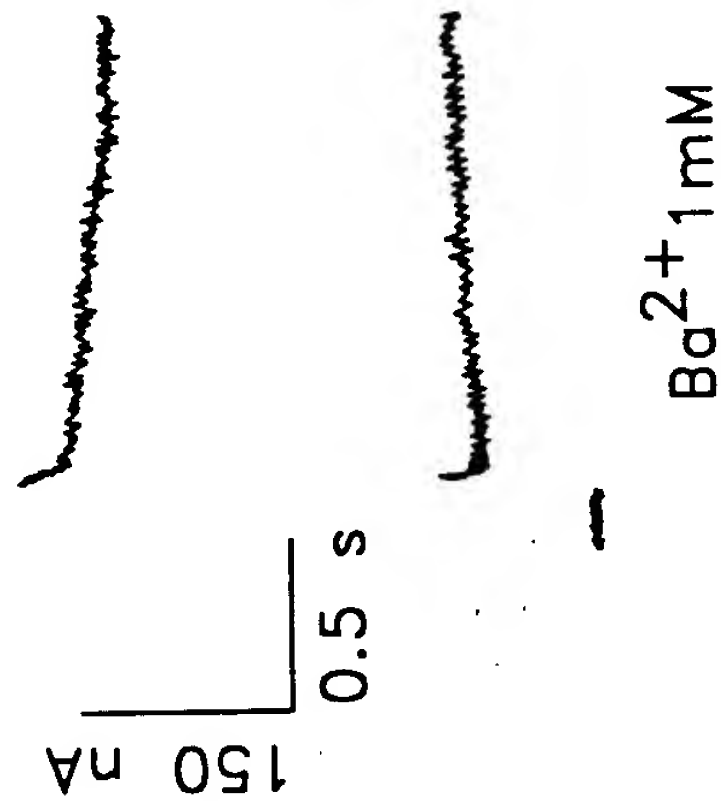


FIG. 3D

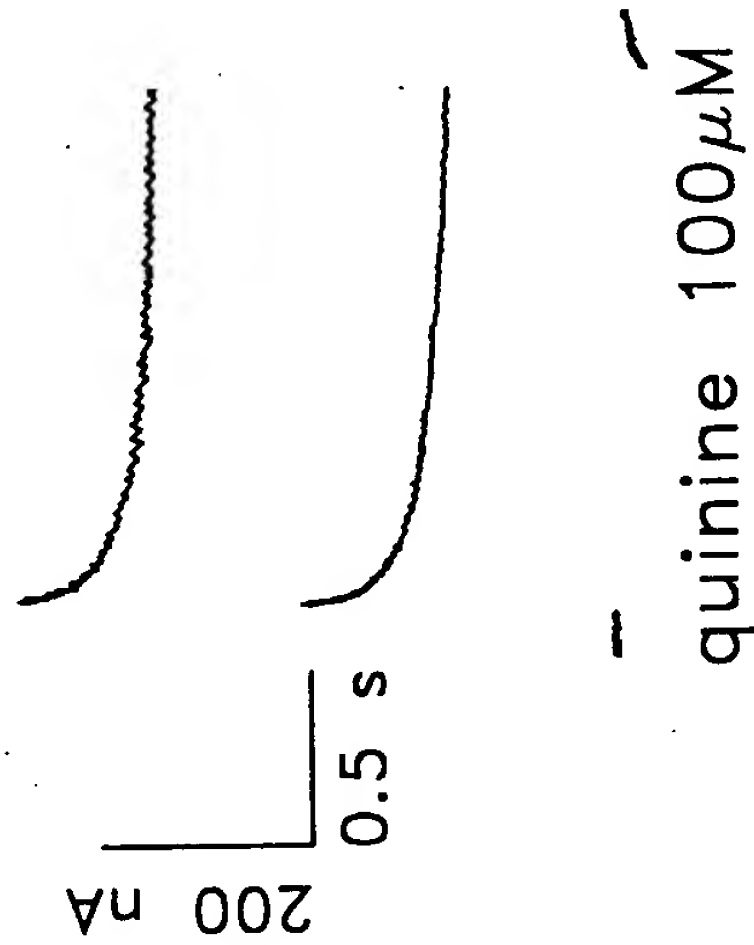


FIG. 3E

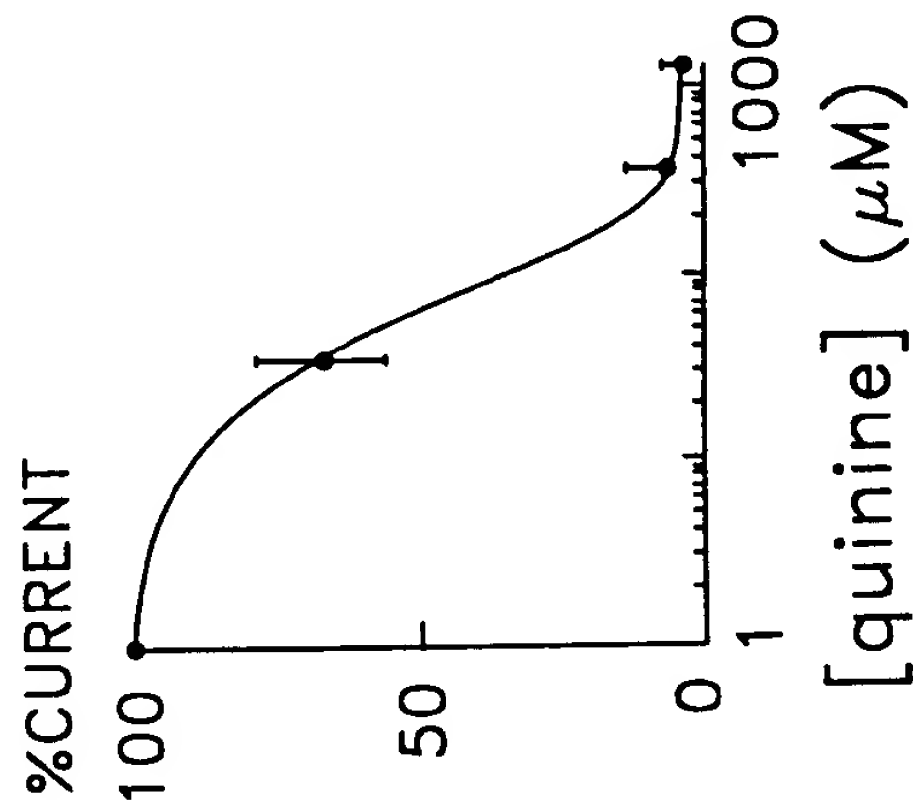


FIG. 3F

FIG. 4A

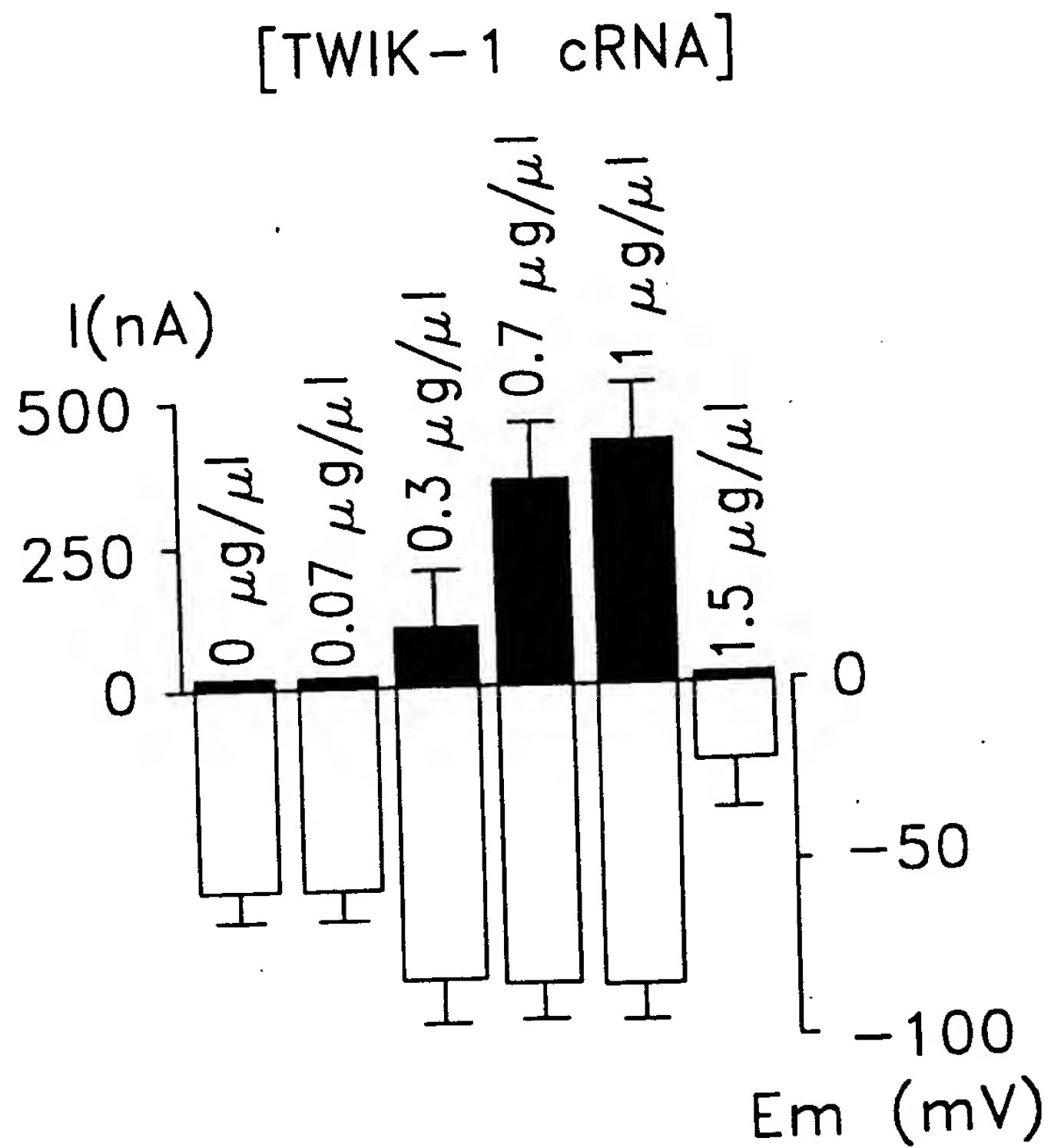


FIG. 4B

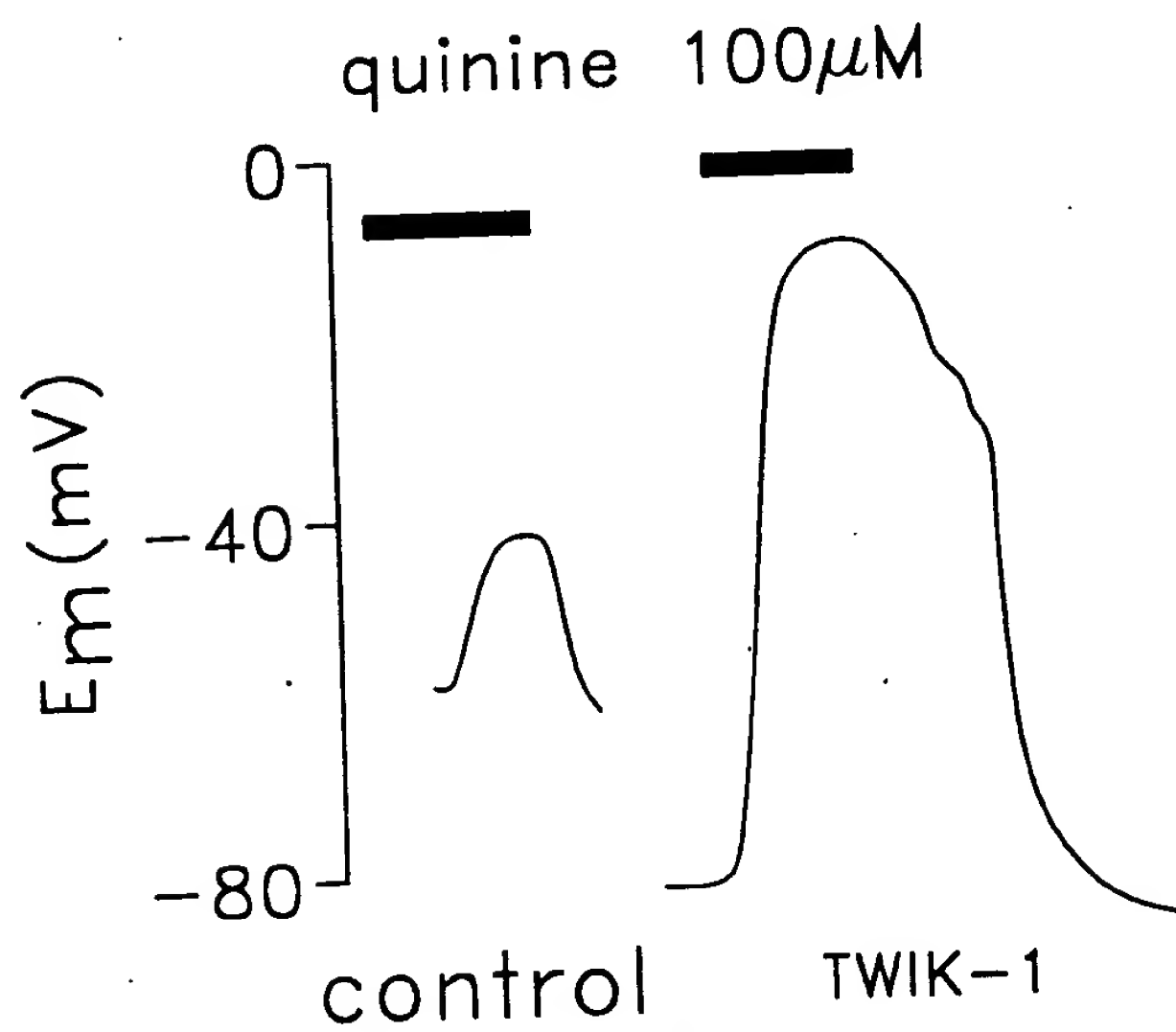
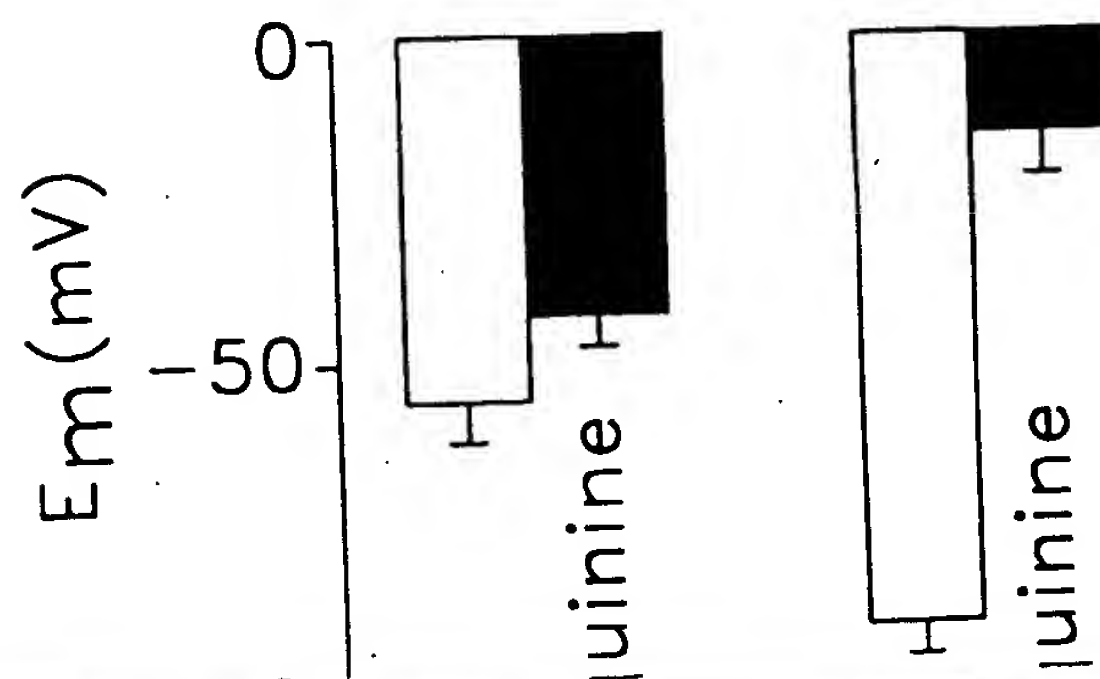


FIG. 4C



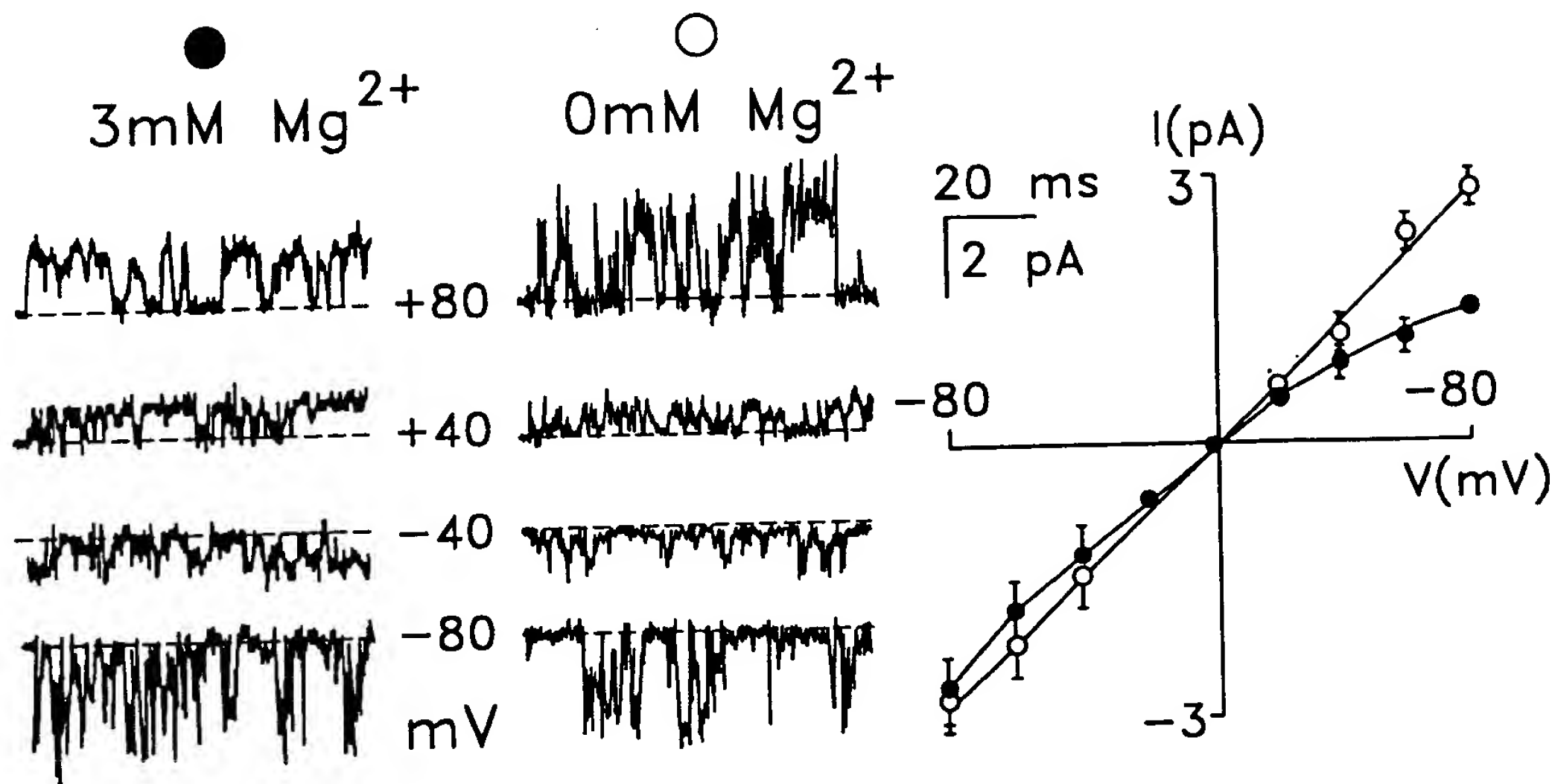


FIG. 5A

FIG. 5B

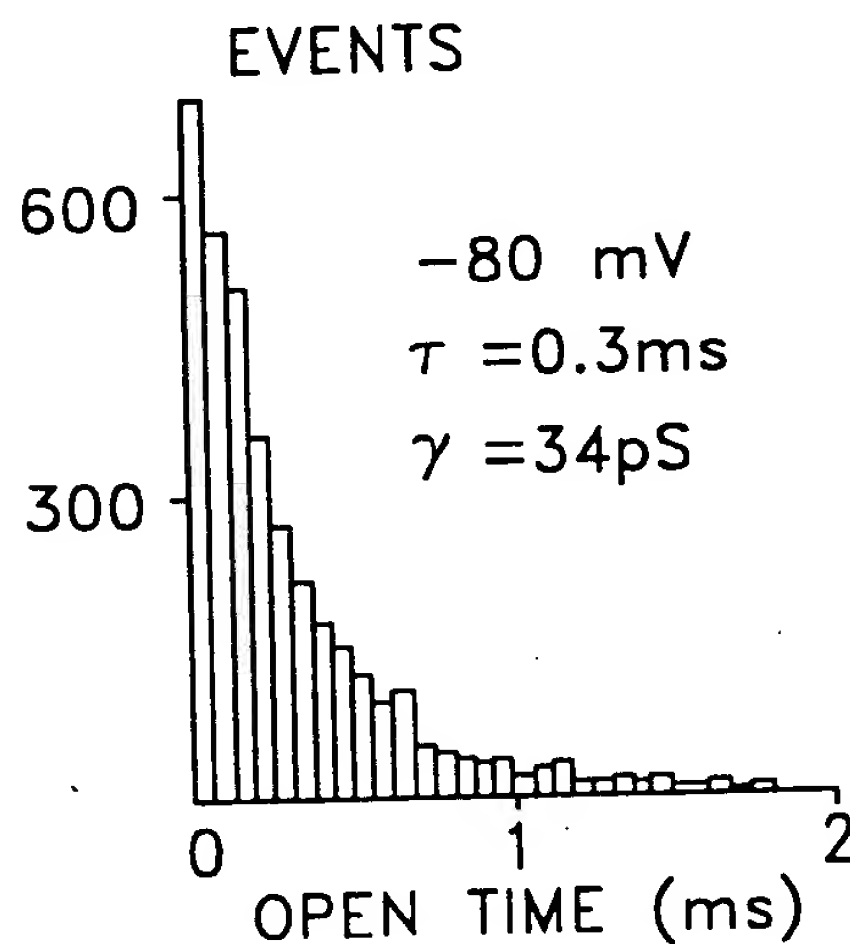
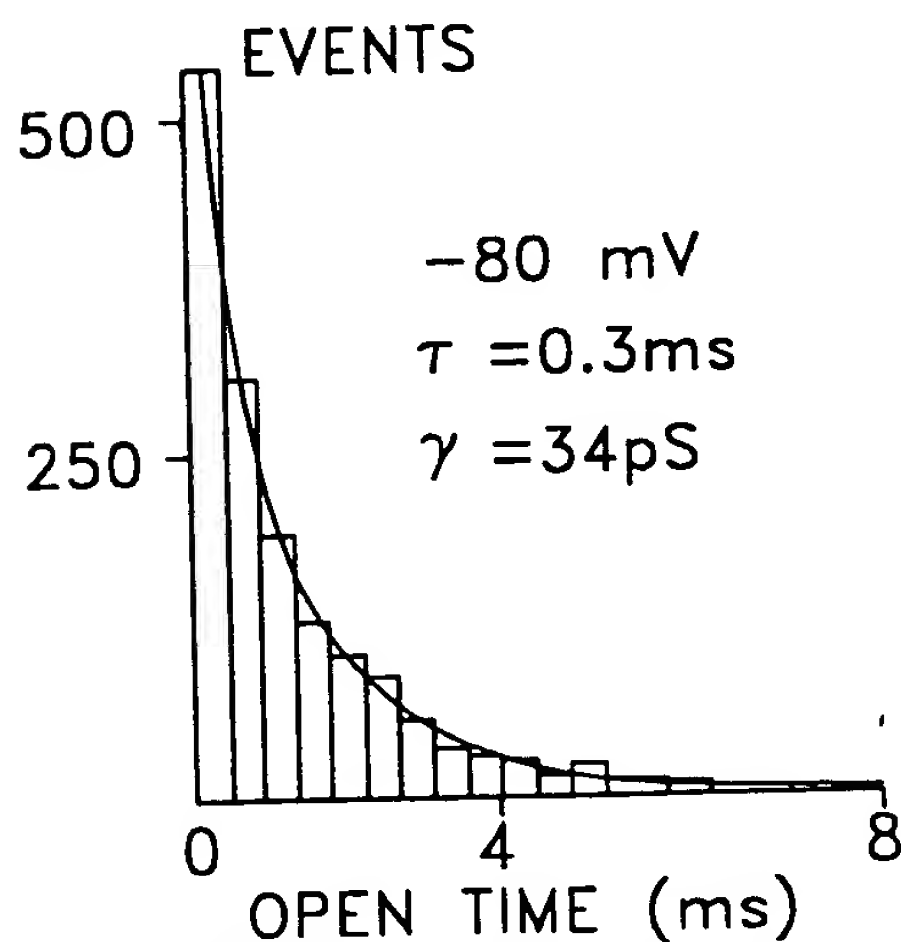
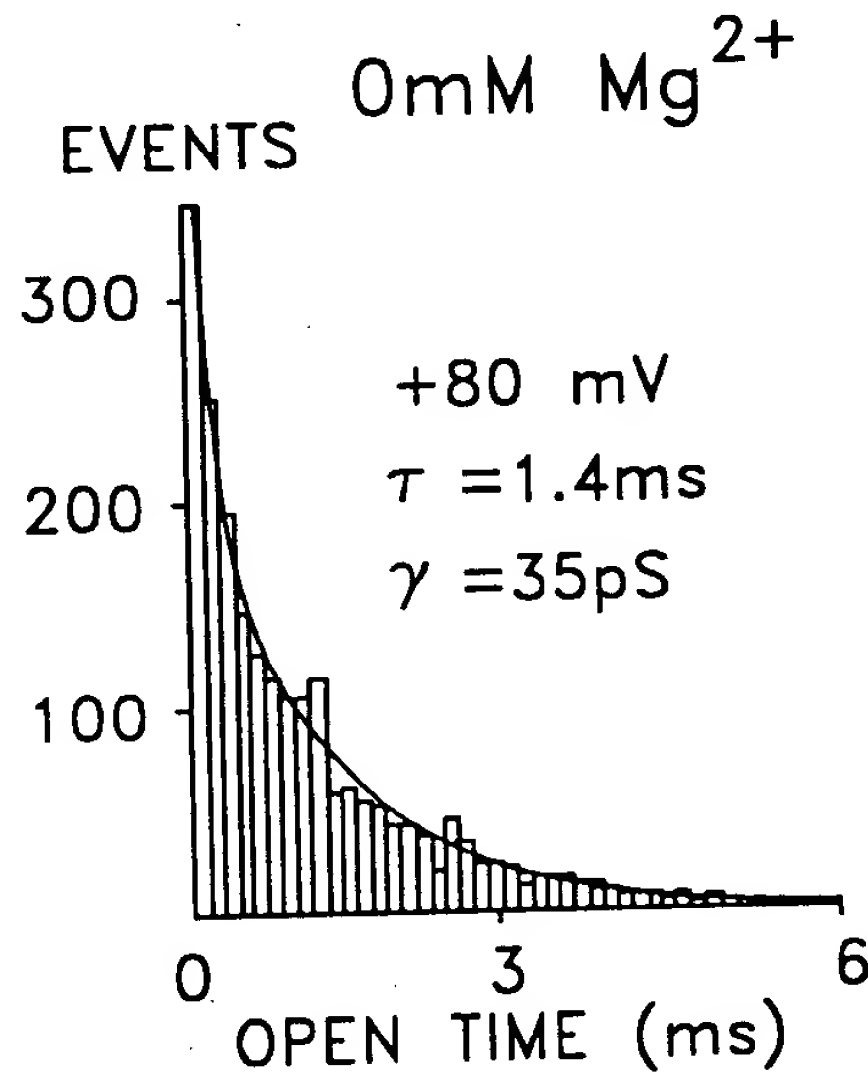
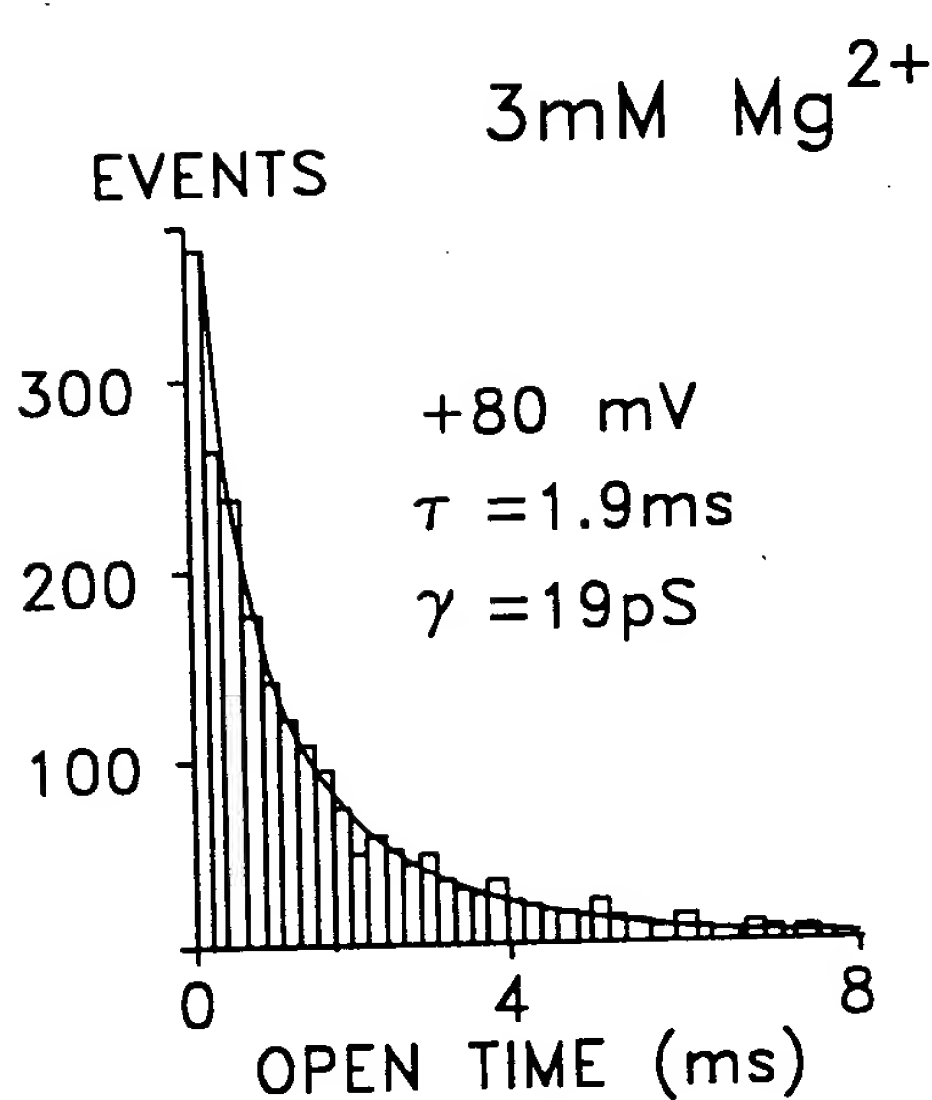


FIG. 5C

FIG. 5D

09939483-082401

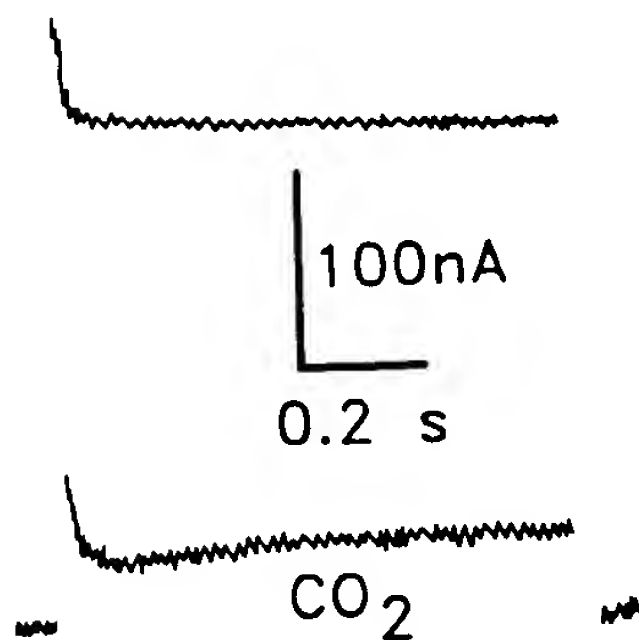


FIG. 6A

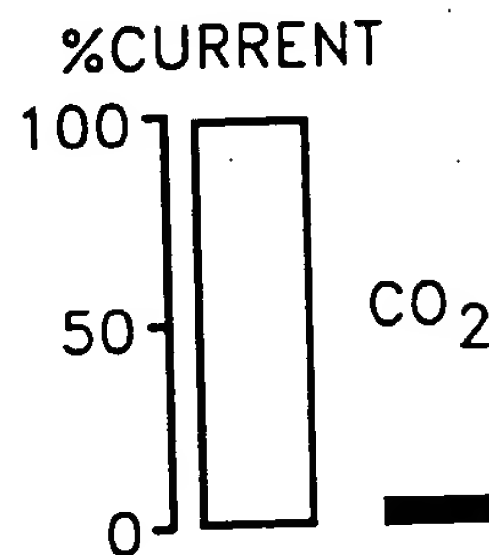


FIG. 6B

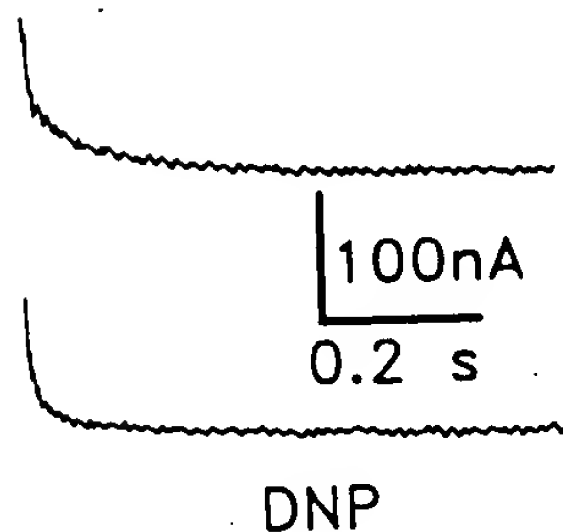


FIG. 6C

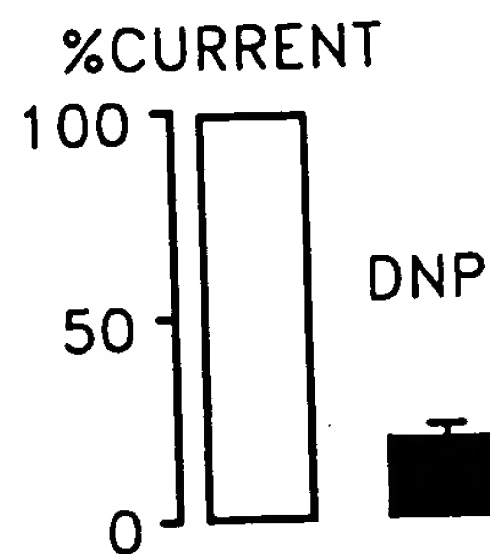


FIG. 6D

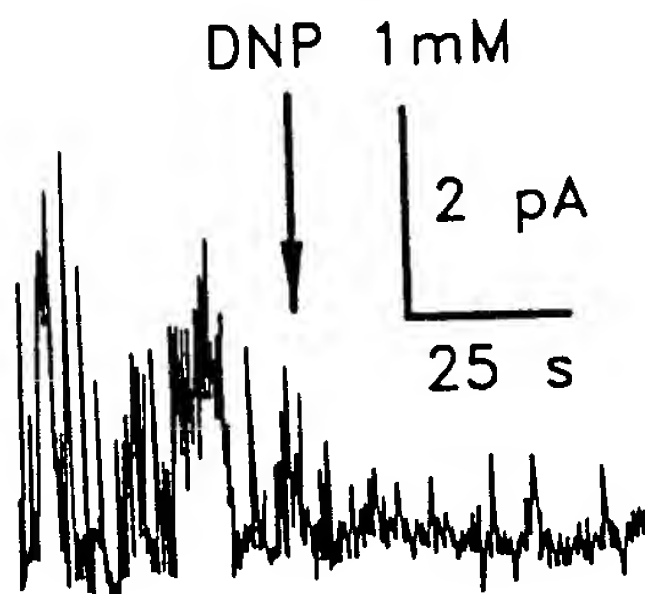


FIG. 6E

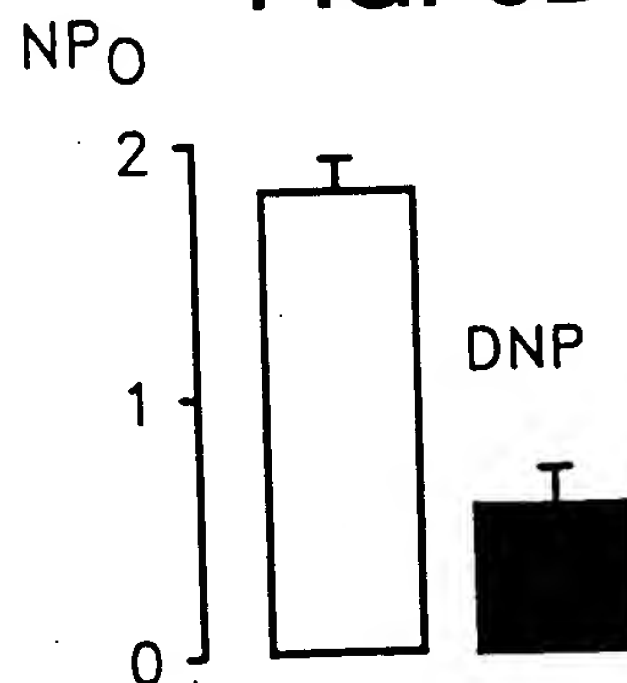


FIG. 6F

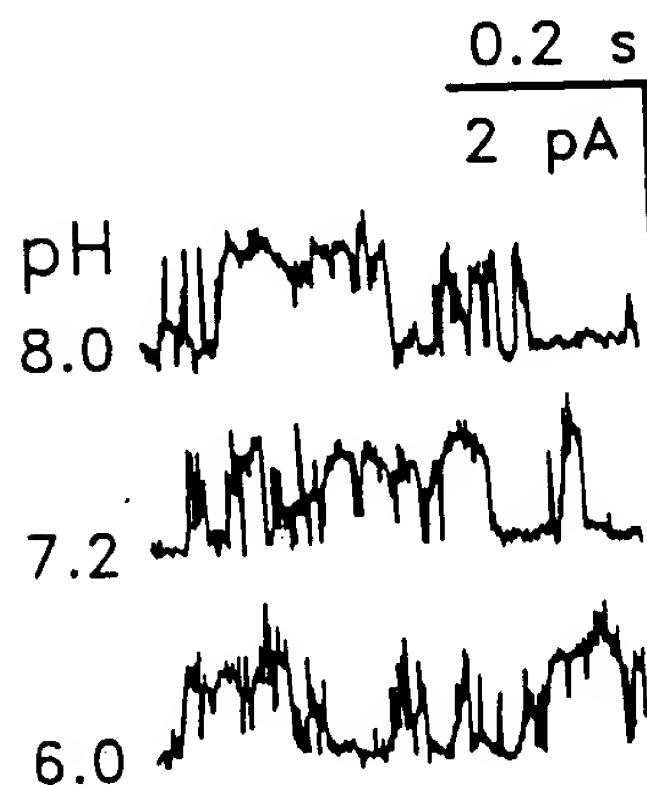


FIG. 6G

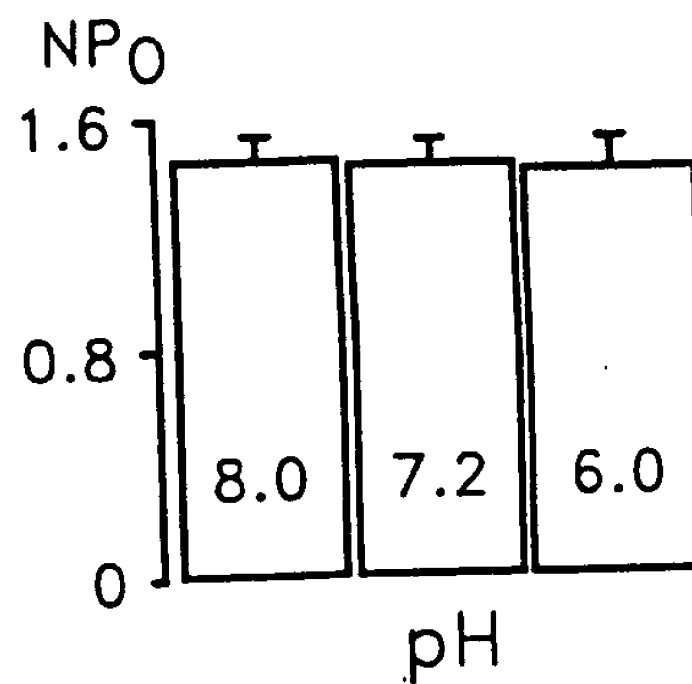


FIG. 6H

104230-0346660

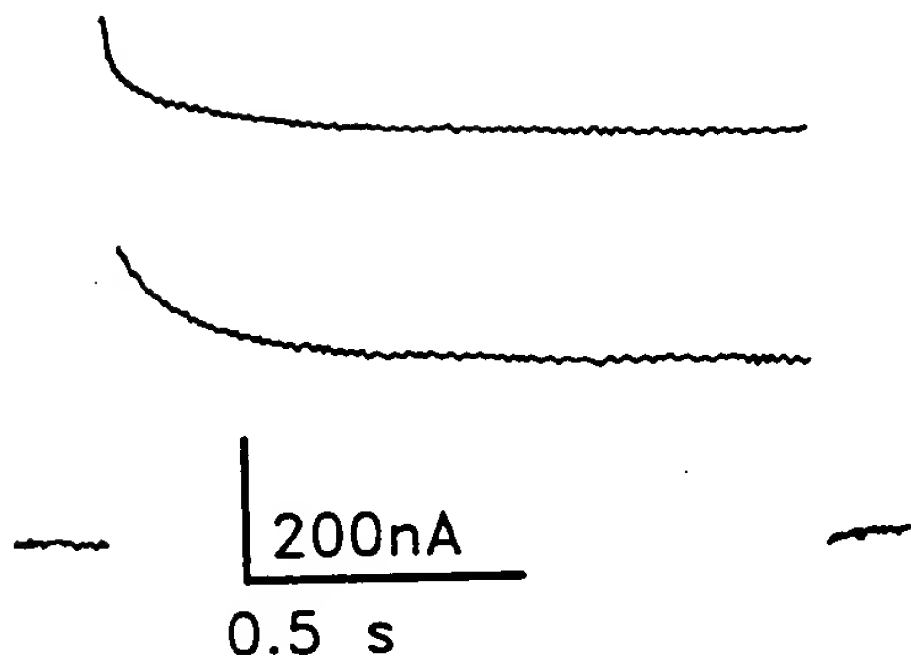


FIG. 7A

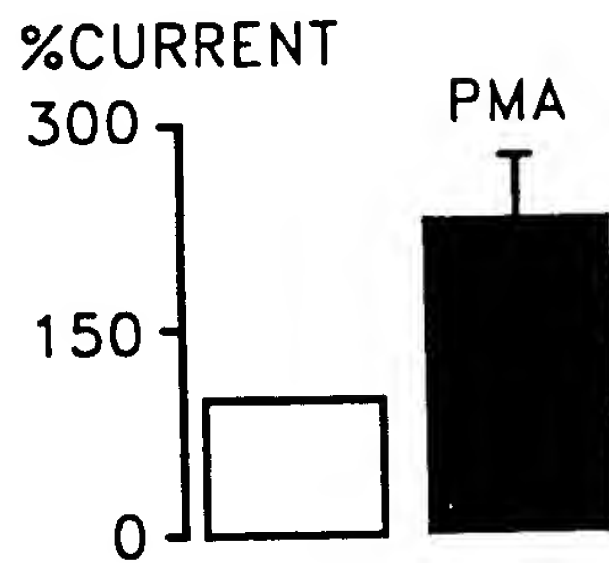


FIG. 7B

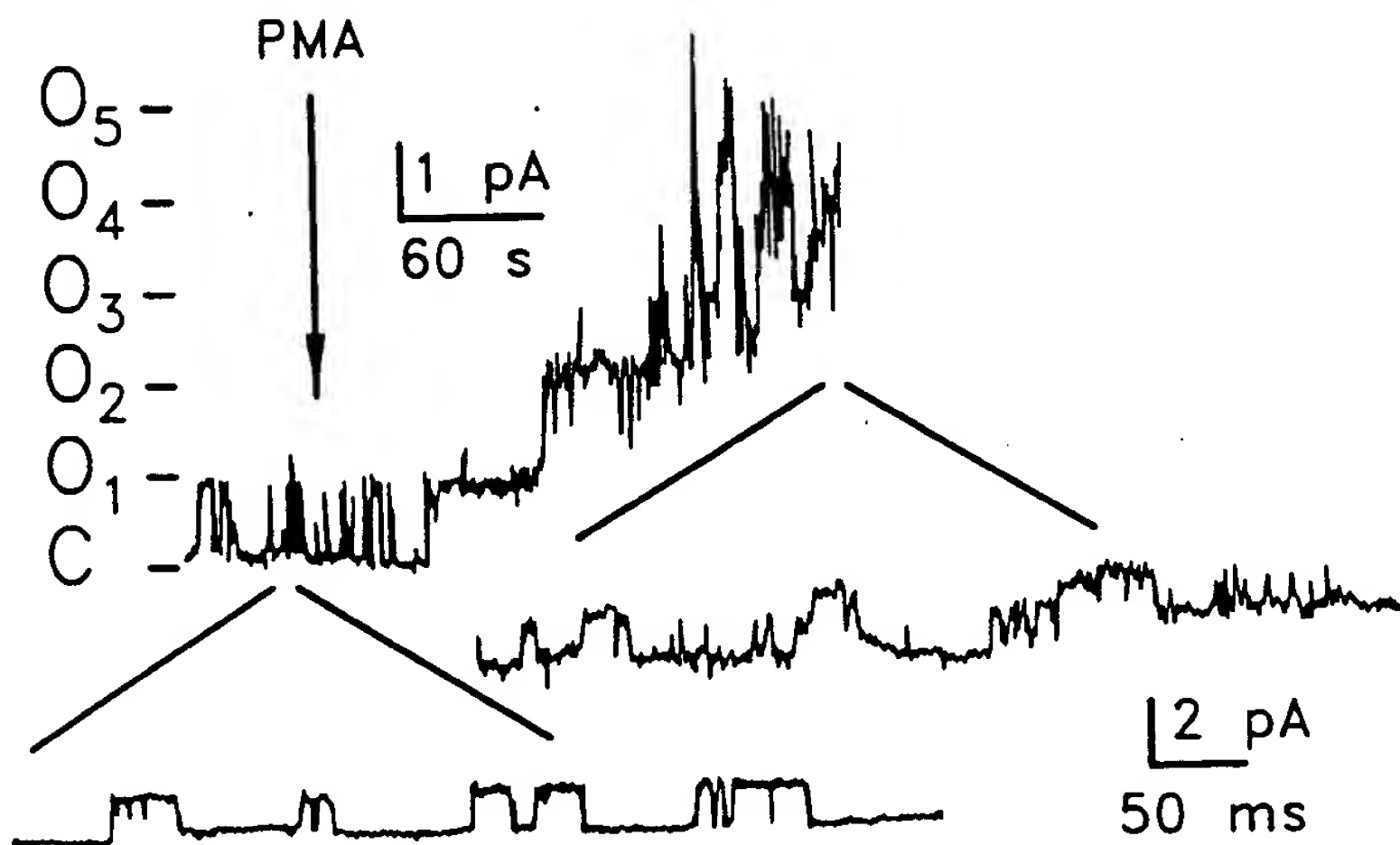


FIG. 7C

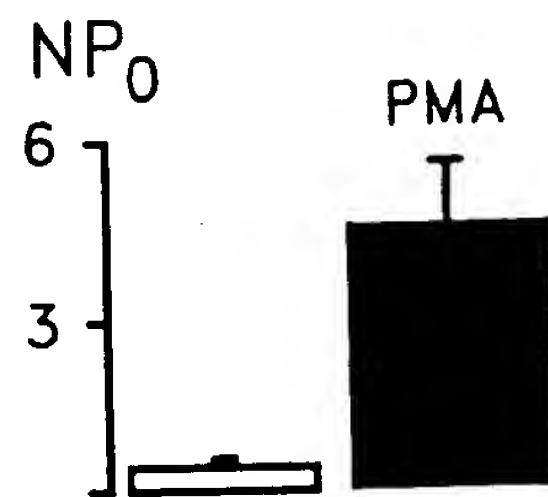


FIG. 7D

0939483-082401

tgccctgcgcggatagcggcgagcgcagccatgccccagggcgctccg -77
 gggcagcagcagcggcgggccggggccgatgcgcgggcccggggcgccggggggccggcgggcgcccgggcggggacg -1

ATG AAG CGG CAG AAC GTG CGC ACG CTG GCG CTC ATC GTG TGC ACC TTC ACC TAC CTG 57
 M K R Q N V R T L A L I V C T F T Y L 19
 E N V R T L A L I V C T F T Y L

CTG GTG GGC GCC GCG GTC TTC GAC GCG CTG GAG TCG GAG CCC GAG CTG ATC GAG CGG 114
 L V G A A V F D A L E S E P E L I E R 38
 L V G A A V F D A L E S E P E M I E R

CAG CGG CTG GAG CTG CGG CAG CAG GAG CTG CGG GCG CGC TAC AAC CTC AGC CAG GGC 171
 Q R L E L R Q Q E L R A R Y N L S Q G 57
 Q R L E L R Q L E L R A R Y N L S E G
 *

GGC TAC GAG GAG CTG GAG CGC GTC GTG CTG CGC CTC AAG CCG CAC AAG GCC GGC GTG 228
 G Y E E L E R V V L R L K P H K A G V 76
 G Y E E L E R V V L R L K P H K A G V

CAG TGG CGC TTC GCC GGC TCC TTC TAC TTC GCC ATC ACC GTC ATC ACC ACC ATC GGC 285
 Q W R F A G S F Y F A I T V I T T I G 95
 Q W R F A G S F Y F A I T V I T T I G

TAC GGG CAC GCG GCA CCC AGC ACG GAT GGC GGC AAG GTG TTC TGC ATG TTC TAC GCG 342
 Y G H A A P S T D G G K V F C M F Y A 114
 Y G H A A P S T D G G K V F C M F Y A

CTG CTG GGC ATC CCG CTC ACG CTC GTC ATG TTC CAG AGC CTG GGC GAG CGC ATC AAC 399
 L L G I P L T L V M F Q S L G E R I N 133
 L L G I P L T L I M F Q S L G E R I N

ACC TTG GTG AGG TAC CTG CTG CAC CGC GCC AAG AAG GGG CTG GGC ATG CGG CGC GCC 456
 T L V R Y L L H R A K K G L G M R R A 152
 T E V R Y L L H R A K R G L G M R H A

GAC GTG TCC ATG GCC AAC ATG GTG CTC ATC GGC TTC TTC TCG TGC ATC AGC ACG CTG 513
 D V S M A N M V L I G F F S C I S T L 171
 E V S M A N M V L I G F V S C I S T L

TGC ATC GGC GCC GCC GCC TTC TCC CAC TAC GAG CAC TGG ACC TTC TTC CAG GCC TAC 570
 C I G A A A F S H Y E H W T F F Q A Y 190
 C I G A A A F S Y Y E R W T F F Q A Y

TAC TAC TGC TTC ATC ACC CTC ACC ACC ATC GGC TTC GGC GAC TAC GTG GCG CTG CAG 627
 Y Y C F I T L T T I G F G D Y V A L Q 209
 Y Y C F I T L T T I G F G D Y V A L Q

AAG GAC CAG GCC CTG CAG ACG CAG CCG CAG TAC GTG GCC TTC AGC TTC GTC TAC ATC 684
 K D Q A L Q T Q P Q Y V A F S F V Y I 228
 K D Q A L Q T Q P Q Y V A F S F V Y I

CTT ACG GGC CTC ACG GTC ATC GGC GCC TTC CTC AAC CTC GTG GTG CTG CGC TTC ATG 741
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 L T G L T V I G A F L N L V V L R F M

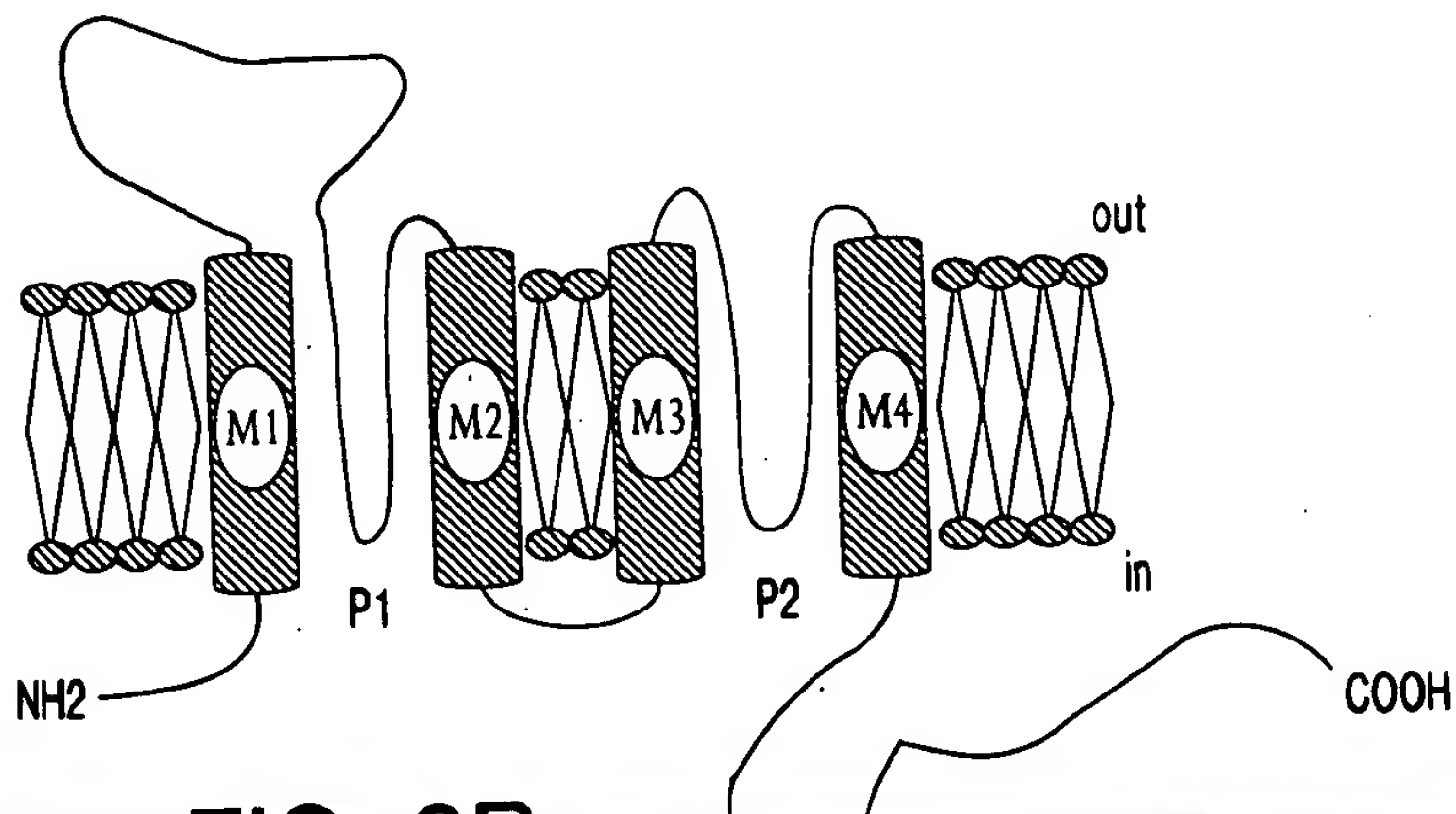
FIG. 8A

ACC	ATG	AAC	GCC	GAG	GAC	GAG	AAG	CGC	GAC	GCC	GAG	CAC	CGC	GCG	CTG	CTC	ACG	CGC	798
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	R	266
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	H	
AAC	GGG	CAG	GCG	GGC	GGC	GGC	GGA	GGG	GGT	GGC	AGC	GCG	CAC	ACT	ACG	GAC	ACC	GCC	855
N	G	Q	A	G	G	G	G	G	G	G	S	A	H	T	T	D	T	A	285
N	G	Q	A	Y	G	L	G	G	L	S	C	L	S	G	S	L	G	D	
TCA	TCC	ACG	GCG	GCA	GCG	GGC	GGC	GGC	GGC	TTC	CGC	AAC	GTC	TAC	GCG	GAG	GTG	CTG	912
S	S	T	A	A	A	G	G	G	G	F	R	N	V	Y	A	E	V	L	304
VRPRDPV	TC	AA	A	A	G	GVGVGVGGS	G	F	R	N	V	Y	A	E	V	L			
CAC	TTC	CAG	TCC	ATG	TGC	TCG	TGC	CTG	TGG	TAC	AAG	AGC	CGC	GAG	AAG	CTG	CAG	TAC	969
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y	323
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y	
TCC	ATC	CCC	ATG	ATC	ATC	CCG	CGG	GAC	CTC	TCC	ACG	TCC	GAC	ACG	TGC	GTG	GAG	CAG	1026
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	Q	342
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	H	
AGC	CAC	TCG	TCG	CCG	GGA	GGG	GGC	GGC	CGC	TAC	AGC	GAC	ACG	CCC	TCG	CGA	CGC	TGC	1083
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	S	R	R	C	361
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	S	H	R	C	
CTG	TGC	AGC	GGG	GCG	CCA	CGC	TCC	GCC	ATC	AGC	TCG	GTG	TCC	ACG	GGT	CTG	CAC	AGC	1140
L	C	S	G	A	P	R	S	A	I	S	S	V	S	T	G	L	H	S	380
L	C	S	G	T	Q	R	S	A	I	S	S	V	S	T	G	L	H	S	
CTG	TCC	ACC	TTC	CGC	GGC	CTC	ATG	AAG	CGC	AGG	AGC	TCC	GTG	TGA	ctgccccgaggggacc				1200
L	S	T	F	R	G	L	M	K	R	R	S	S	V	*					395
L	A	A	F	R	G	L	M	K	R	R	S	S	V						
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gctaggtctccc	accttccctt	gggtccaaa	agccagggt	gtctatgt	ccaagtcac	ccctactcag	ccccactcc												1656
ccttctcatccc	agctgtgtct	cccaacct	cccttcgt	gttgtttt	gcatggctt	tgagttat	ggagaaagt												1732
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gaatactgagg	cctggac	agggtga	agtga	accagag	agcaaaa	aggcaa	agggtg	ggggct	gggtgc	agtggtc	ac								2188
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acatagtga	gaccccc	atctct	acaaaa	ataaaaa	attaa	accagg	tggtgg	cacgtgc	cctggg	agtc	ccagcga								2340
cttgggagg	ctgagg	tgagg	attgtt	tgagc	ctggg	aggtcg	aggctgt	agtga	gcctg	attgc	accactg	ta							2416
ctccagcctgg	gtgacagg	ggcaag	accctgt	ctcaaaaa	aaaaaaaa														2465

FIG. 8B

	1	-----MLQSLAGSSCVR-----LVERHRS-----
	1	MAAPDLDLPKSAQNSKPRLSFSSKPTVLASRVESDSA
	1	-----MKR-----Q-NVR-----
		M1
TWIK-1	20	-----ANCFG-FLVLGYLLYLVFAGVVFSSVELPYEDLL
TREK-1	39	INVMKVKTVSTIFLVVLYLIIGAAVFKALEQPEISQ
TASK	8	-----TLALIVCTFTYLLVGAAVFDALSEPPELIE
		P1
TWIK-1	53	ROELRKLKRRFLEEHECLSEQOLEQFLGRVLEASN YGV
TREK-1	77	RTTIVIQKQTEIAQHACVNSTELDEL IQQIVAAINAGI
TASK	38	RQRLRLRQQLRARNYLSQGG-YEELERVVLRLKPKHA
		P1
TWIK-1	91	SVLSNASG-NWNNDFTSALFFASTVLSTTG YGHTVPLS
TREK-1	115	IPLGNSSNQVSHNDLGSSFFFA GTVITTIGEGNISPR
TASK	75	G-----VQ-NREAGSEYFAITVITTIGYGH AAPST
		M2
TWIK-1	128	DGGKAFCCIYSVIGIPETLLFLTA VVQRI TVHVTR--R
TREK-1	153	EGGKIFCCIYALLGIPLLEGFLLAGVGDQLGTIFGKGIA
TASK	104	DGGKVFCMFYALLGIPLTLVMFOSLGERINTLVRY---
		M3
TWIK-1	164	PVLYFHIRNGFSKQVVAIVHAVLIGFVTVSCFFIPAA
TREK-1	191	KVEDTFIKVNVSTKIRIISTIFILFGCVLFVALPAV
TASK	139	LHRAKKGTEMRADVSMANMVLIGFFSCISTLCIGAA
		P2
TWIK-1	202	VFSVLEDDNFLESFYFCFISLSTIGLDYVPGE-GYN
TREK-1	229	IFKHIEG-NSALDAIFYVITLTIGFGDYVAG--GSD
TASK	177	AFSHYEH-NTFFQAYVYCFITLTIGFGDYVALQKDQA
		M4
TWIK-1	239	OKERELYKIGITCYLLGLIAMLVLETFOELHELKKF
TREK-1	264	IEYLDFYKPVVWFILVGLAYFAAVLSMIGDWLRVISK
TASK	214	LQTQPQYVAESFVYILTGLTVIGAFLNLVVLRFMTMNA
		P2
TWIK-1	277	RKMFYVKKDKD-----
TREK-1	302	KTKEEVGEFR-----
TASK	252	EDEKRDAEHRALLTRNGQAGGGGGGSAHTTDTASSTA
		P2
TWIK-1	288	-----EDQVHIIEHDQLSFSSITDOAAGMK--
TREK-1	312	-----AHAAEW TANVTAEFKETRRLSVEI--
TASK	290	AAGGGGFRNVYA EVLHFQSMCSCLWYKSR EKLQYSIPM
		P2
TWIK-1	313	---EDQKQNEP FVATOSSACVDGPANH-----
TREK-1	337	---YDKFORATSVKRKLSAELAGNHNQELTPCMRTCL-
TASK	328	IIPRDLSTSDTCVEQSHS SPGGGGGRYSDTPSRRCLCSG
		P2
TWIK-1	337	-----
TREK-1	371	-----
TASK	366	APRSAISSVSTGLHSLSTFRGLMKRRSSV

FIG. 9A



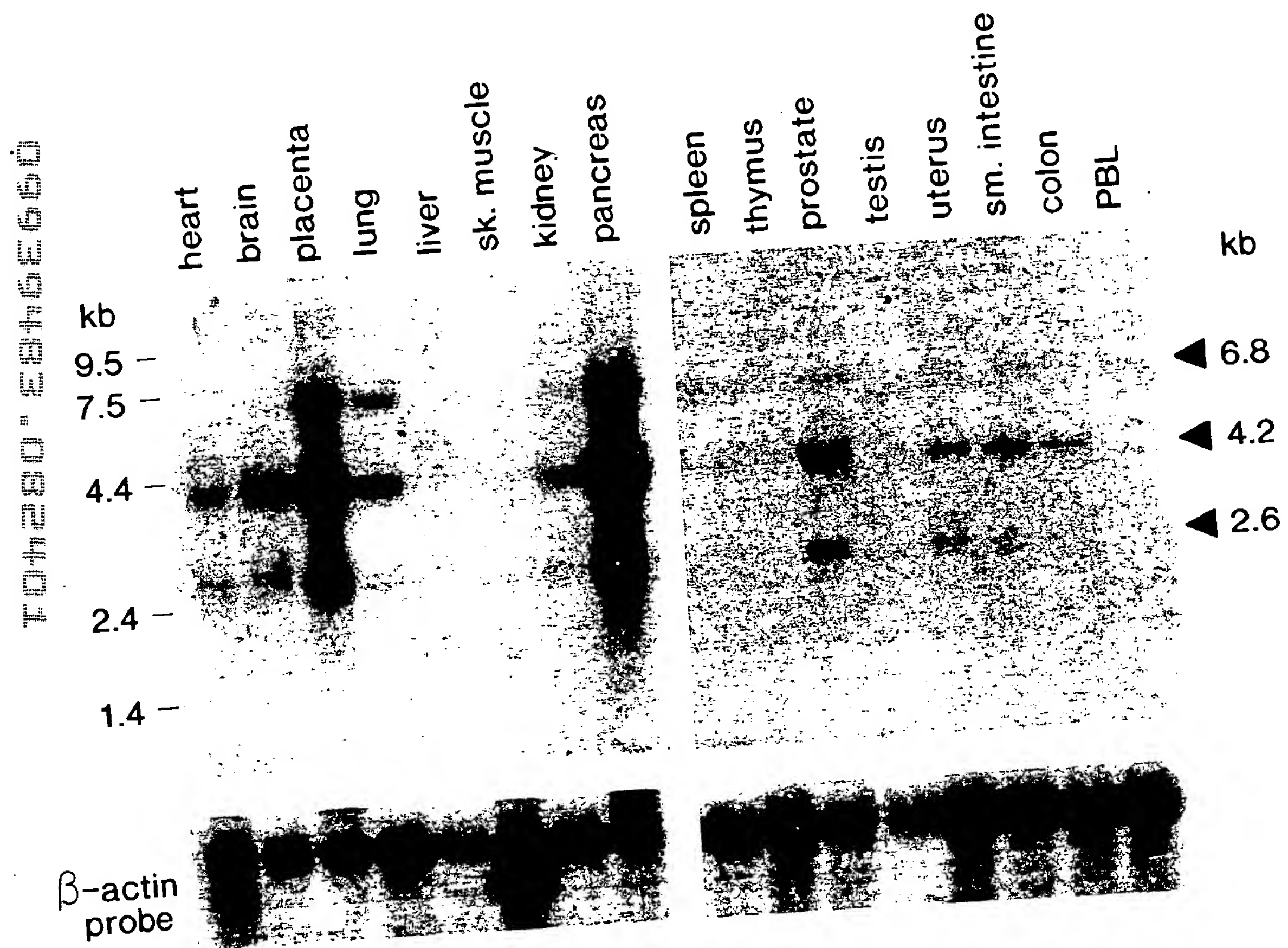


FIG. 10

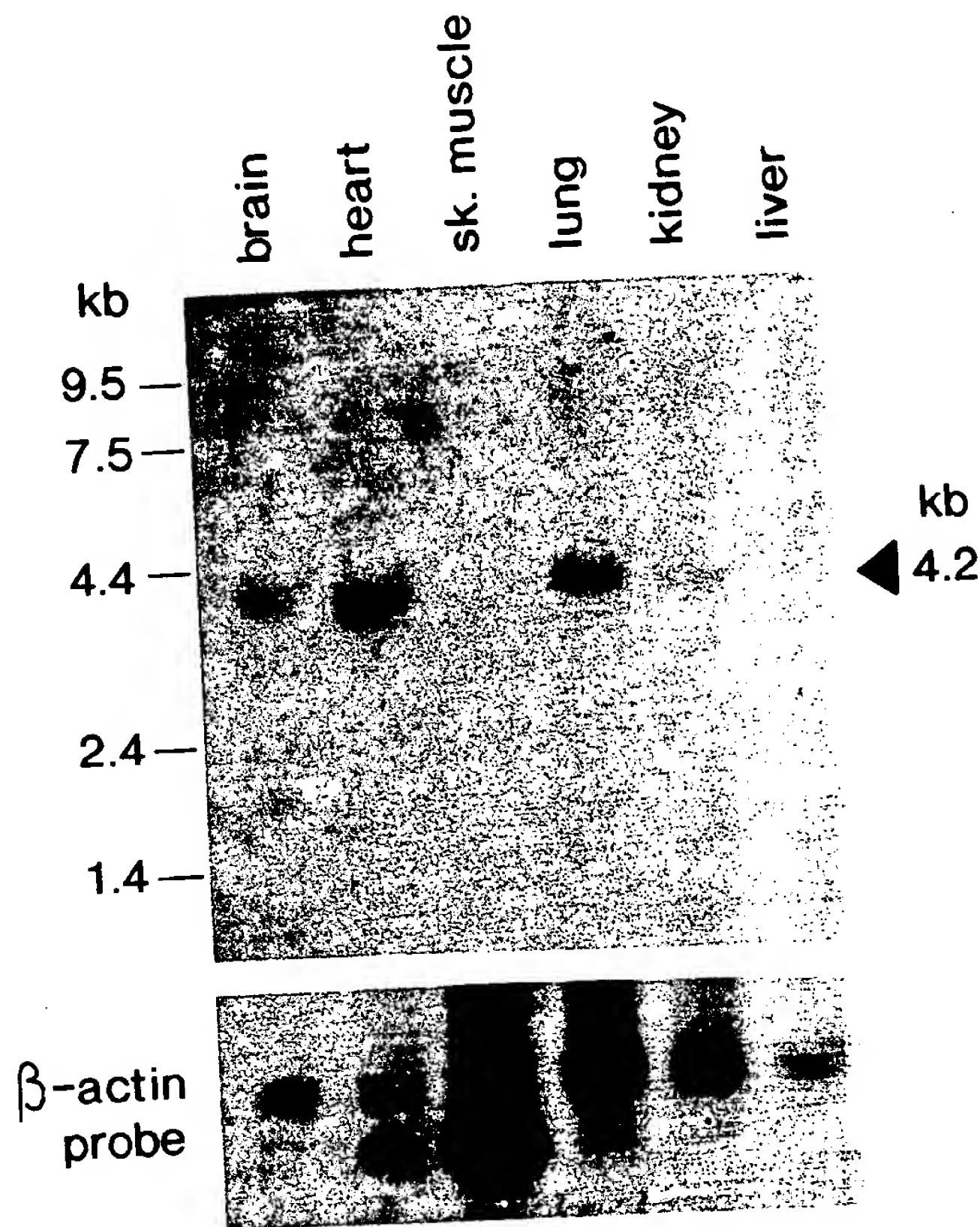


FIG. 11A

FIG. 11B

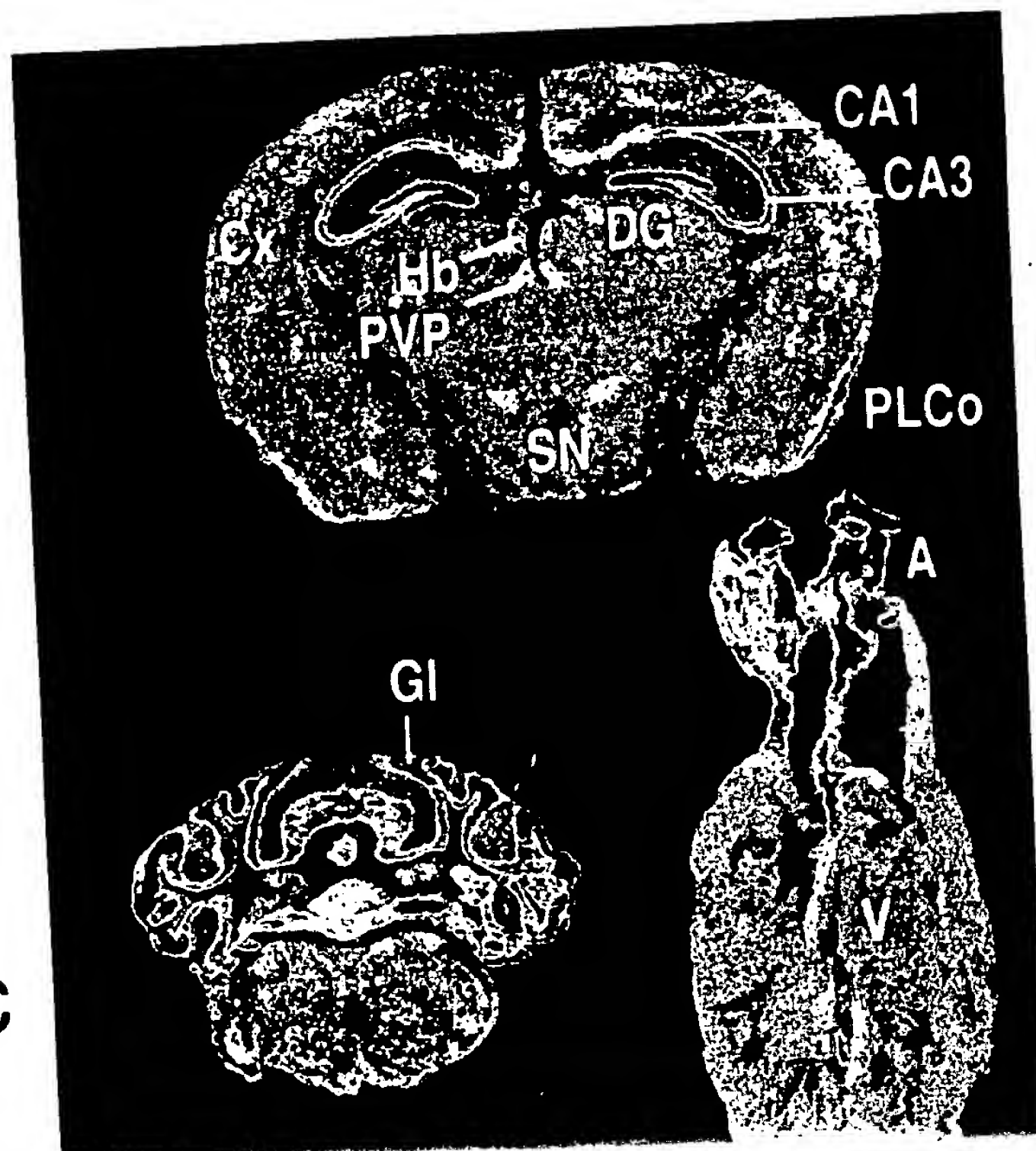


FIG. 11C

FIG. 11D

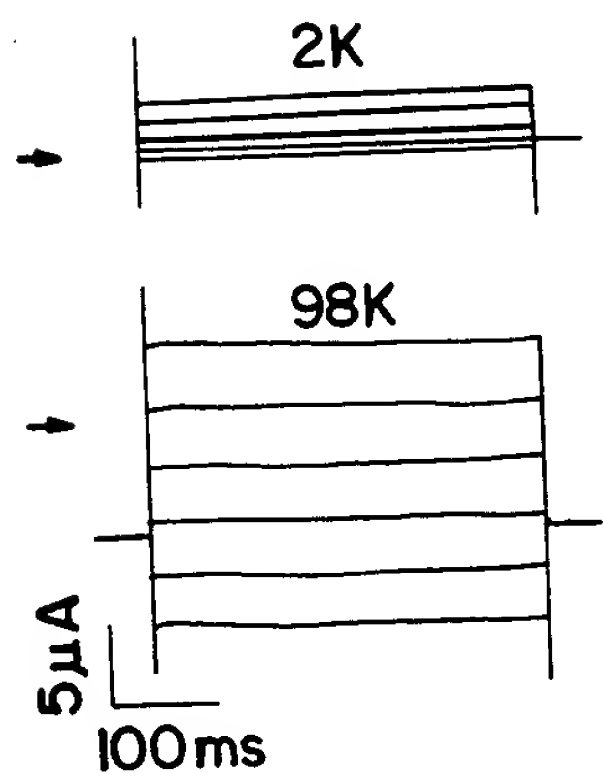


FIG. 12A

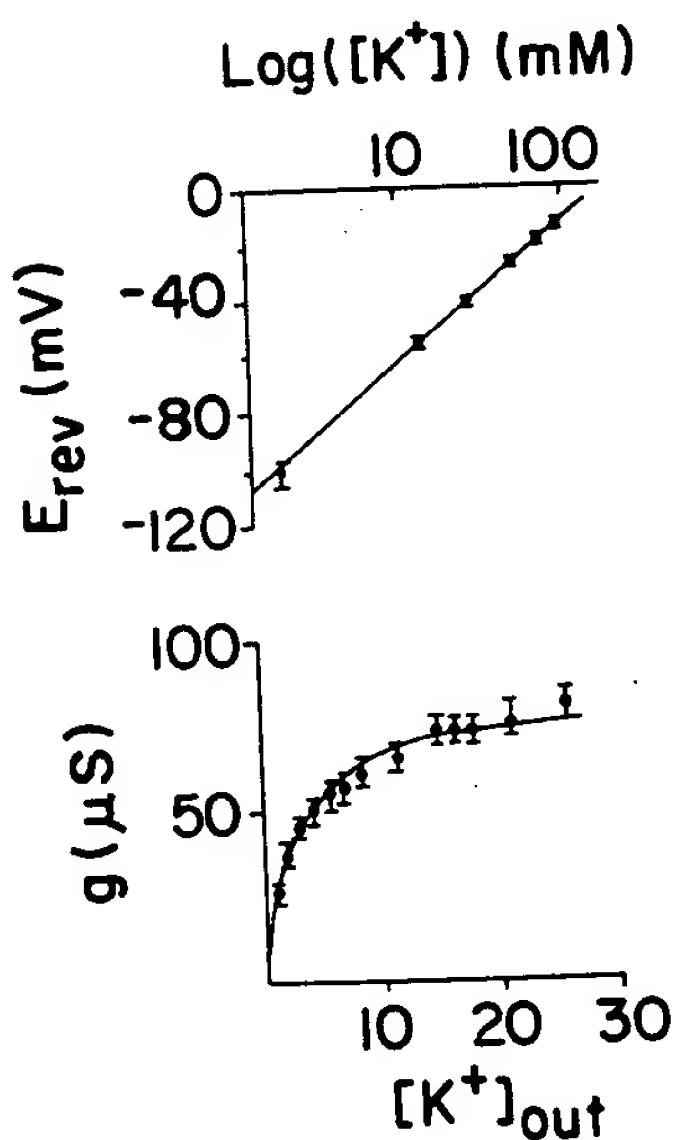


FIG. 12C

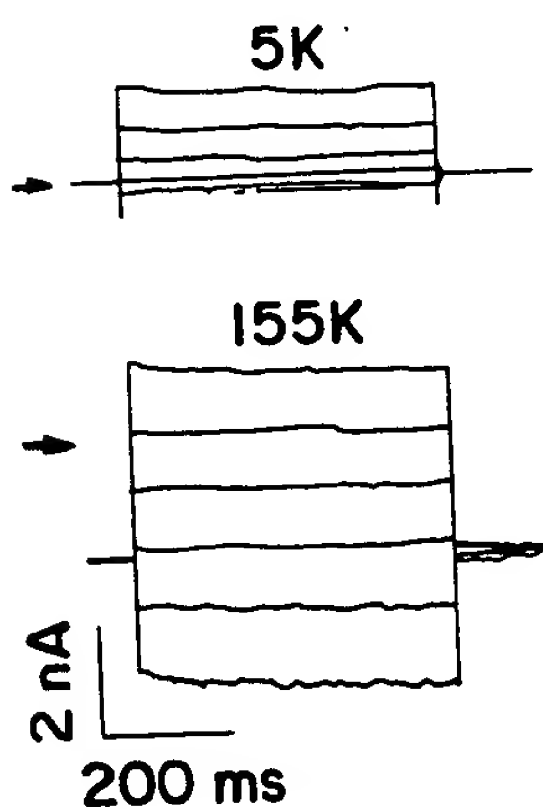


FIG. 12E

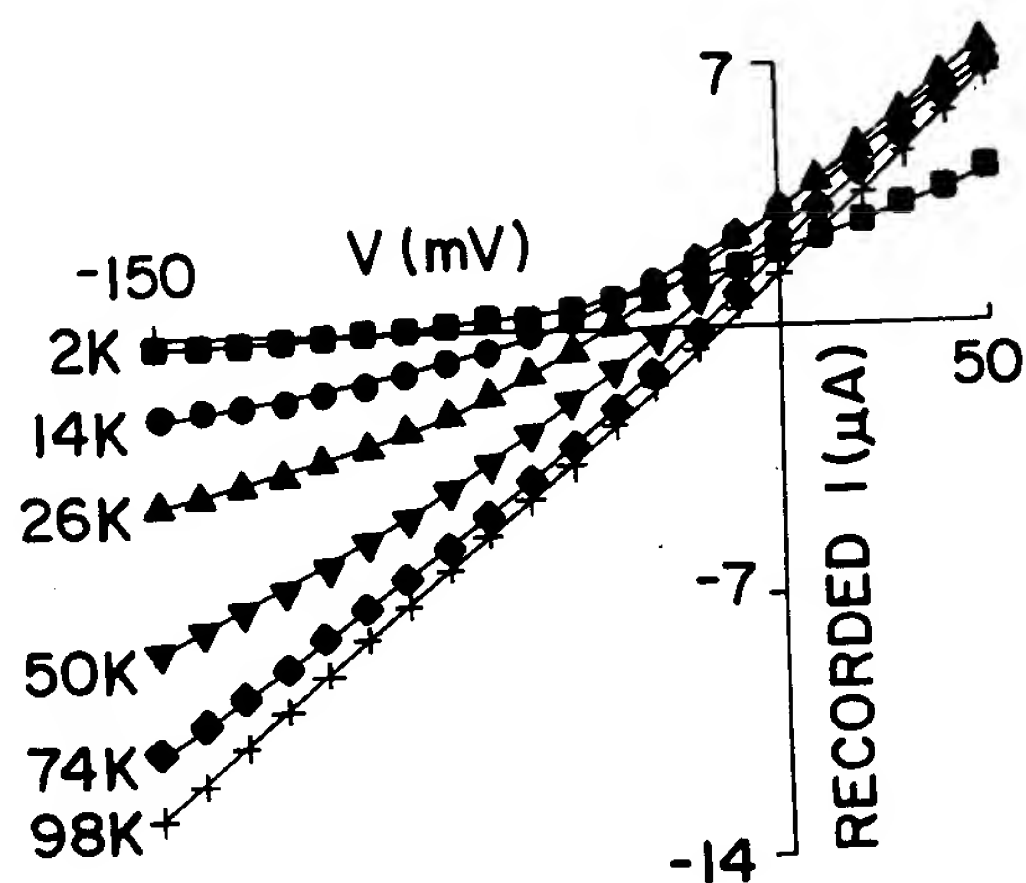


FIG. 12B

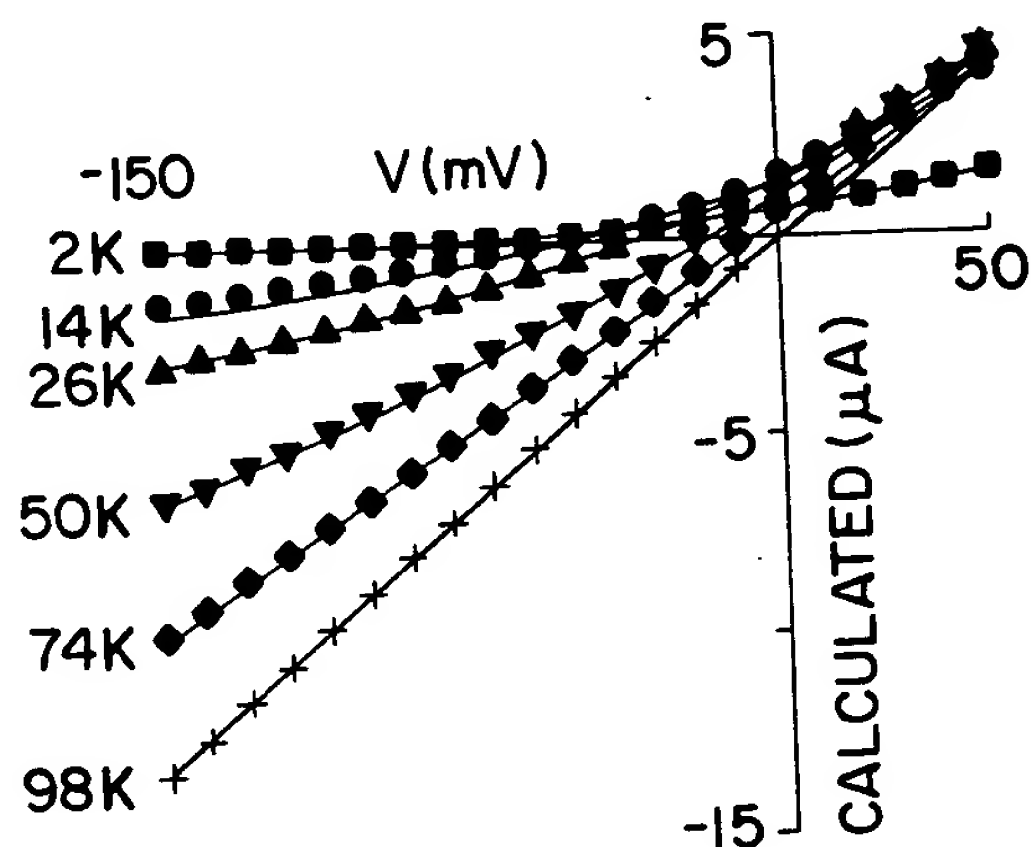


FIG. 12D

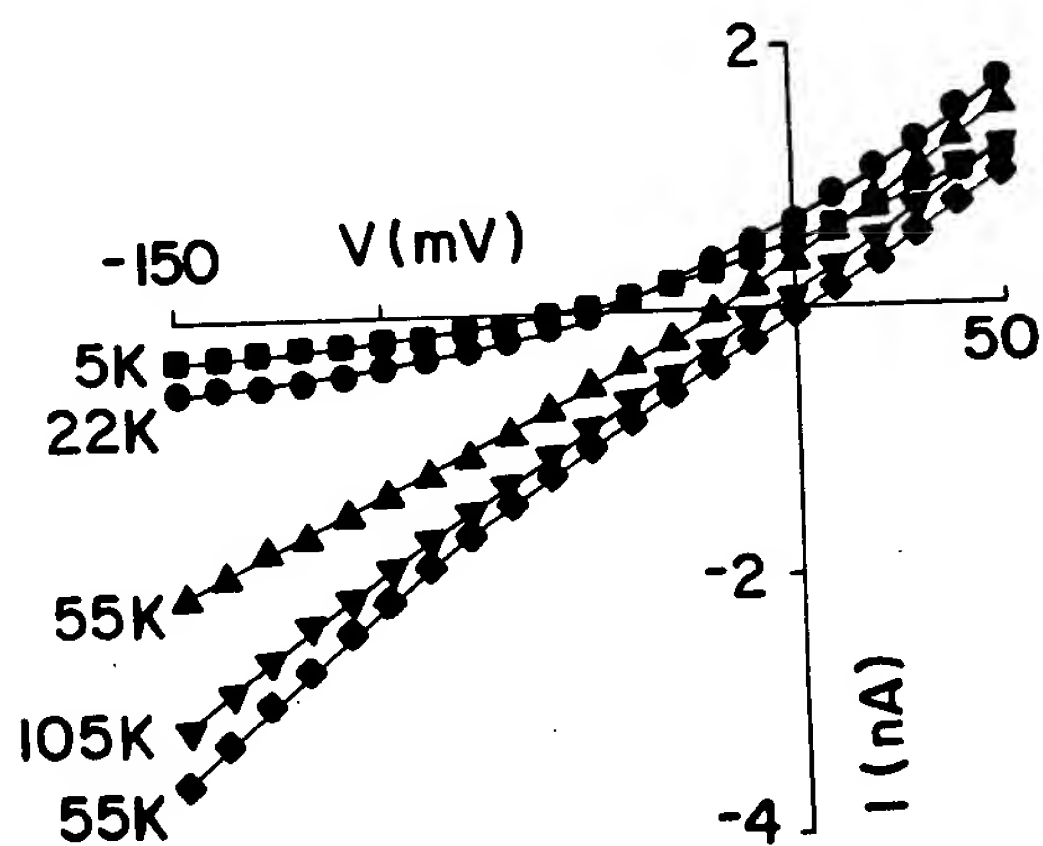


FIG. 12F

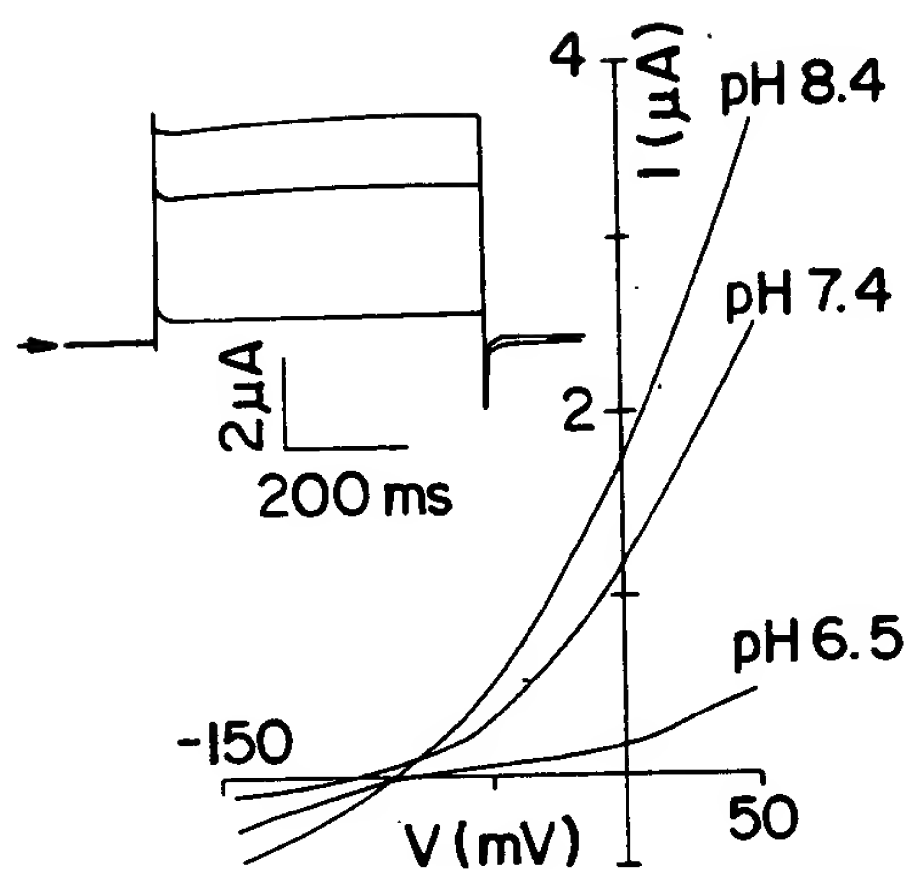


FIG. 13A

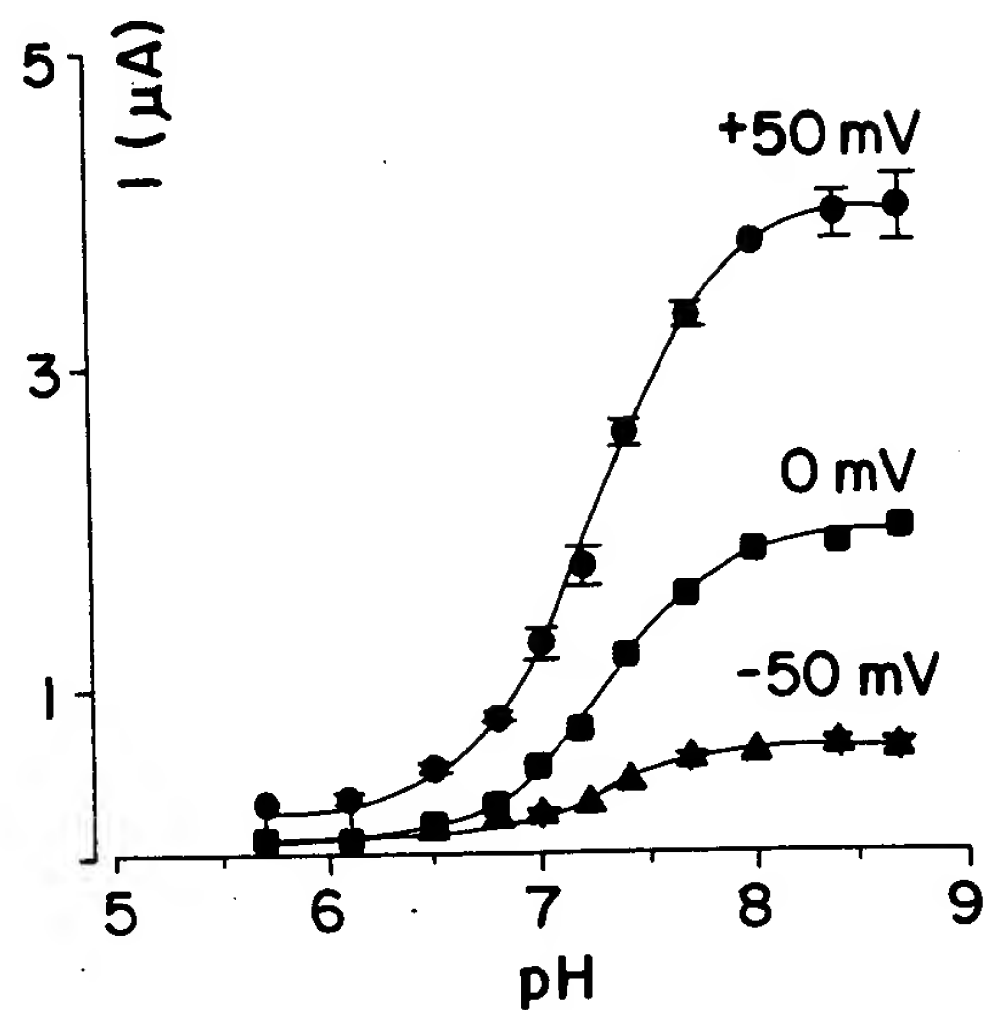


FIG. 13B

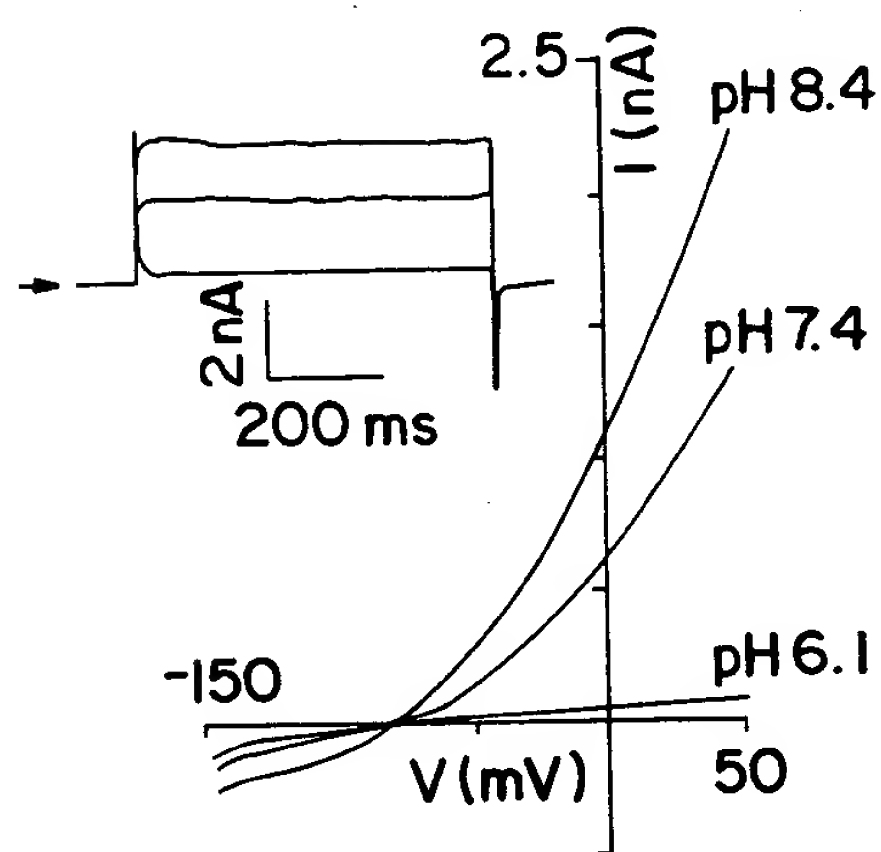


FIG. 13C

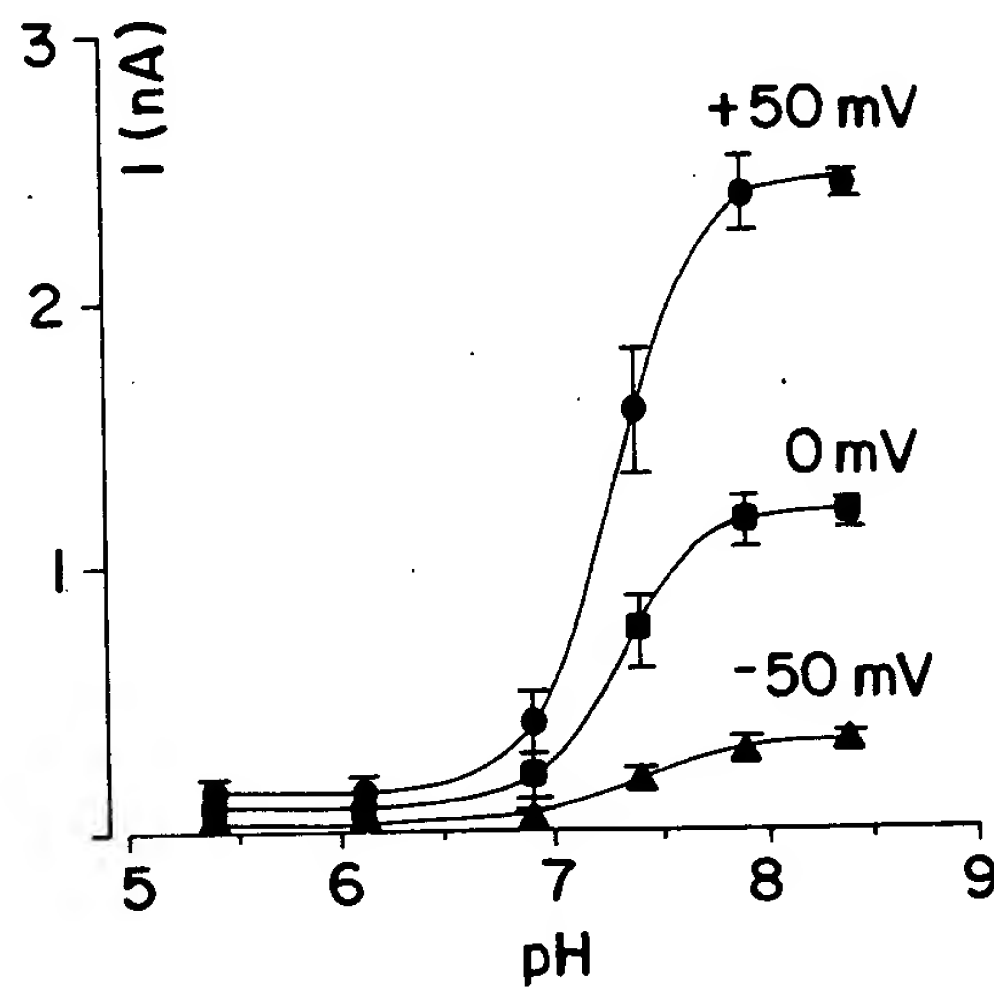


FIG. 13D